





**EASA**  
European Aviation Safety Agency

Postfach 10 12 53, D-50452 Cologne

An agency of the European Union



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Brief  
PP - PRIORITY





European Union Aviation Safety Agency  
Applicant Services Department  
Postfach 10 12 53  
50452 Cologne, Germany

Jeff Clarke  
AERO DESIGN LTD.  
9888A MALASPINA ROAD  
POWELL RIVER BC V8A 0G3  
CANADA

Cologne, 17 July 2019

**Approval Number: 10060496**  
**EASA Account Number: 300116**  
**Application Type: EASA STC Approval**

Please state the **approval number** and your **EASA account number** in all communication with the Agency

Dear Sir or Madam,

Please find enclosed the original(s) of your document(s) issued by the European Aviation Safety Agency.

Should you have further queries, please do not hesitate to contact us. Please assist us by always quoting your EASA account number in any correspondence with the Agency.

#### Right to Appeal

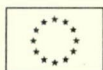
The applicant has the right to appeal in accordance with Article 108-109 of Regulation (EU) No 2018/1139. The appeal notification must be filed in writing at EASA within two months of the date of this notification. Pursuant to Article 15 of Commission Regulation (EU) 319/2014, a charge shall be paid upon lodging the appeal. The amount of the charge is specified in Part II of the Annex of Commission Regulation (EU) 319/2014.

The appeal notification form, as well as further information on the appeal procedure, is available on the Agency's website (<https://www.easa.europa.eu/the-agency/other-easa-boards/easa-board-of-appeal>).

Yours faithfully,

Applicant Services Department  
European Union Aviation Safety Agency

This is a computer generated document valid without an EASA signature.



## SUPPLEMENTAL TYPE CERTIFICATE

**10060496 REV. 1**

This Certificate/Approval is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation and in accordance with Commission Regulation (EU) No. 748/2012 to

### **AERO DESIGN LTD.**

**9888A MALASPINA ROAD  
POWELL RIVER BC V8A 0G3  
CANADA**

and certifies that the change in the type design for the product listed below with the limitations and conditions specified meets the applicable Type Certification Basis and, if applicable, environmental protection requirements when operated within the conditions and limitations specified below:

**Type Certificate Number:** EASA.R.008 and EASA.R.146

**Type Certificate Holder:** AIRBUS HELICOPTERS

**Type:** AS 350/EC 130 and AS 355

**Model:** AS 350 B1, AS 350 B2

AS 350 B3, AS 350 BA, AS 350 D

AS 355 E, AS 355 F, AS 355 F1

AS 355 F2, AS 355 N, AS 355 NP

**Original STC Number:** TCCA SH09-38

#### **Description of Design Change:**

Installation of Quick Release Maintenance Step, Installation of Maintenance Peg Step, Installation of Fixed Cabin Step as detailed below.

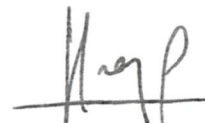
#### **Configuration A- Quick Release Maintenance Step**

Installation of External Attachment Provisions in accordance with STC SH08-16 (Configuration A) is required for installation of Quick Release Maintenance Step. Installation of the Quick Release Maintenance Step to be completed in accordance with TCCA approved, Aero Design Ltd. Document Control List, DCL827-1, Revision 6, dated 31 July 2014, or later approved revision. External Attachment Provisions may remain installed if the basket installation is removed.

See Continuation Sheet(s)

**For the European Aviation Safety Agency**

**Cologne, Germany, 09 July 2019**



**Fabrice LEGAY**

**Section Manager**

**Medium & Light Rotorcraft**



**Configuration B- Maintenance Peg Step**

Installation of Maintenance Peg Step to be completed in accordance with TCCA approved, Aero Design Ltd.  
Document Control List, DCL827-2, Revision 4, dated 31 July 2014, or later approved revision.

**Configuration C- Fixed Cabin Step**

Installation of Fixed Cabin Step to be completed in accordance with TCCA approved, Aero Design Ltd.  
Document Control List, DCL827-3, Revision 7, dated 31 July 2014, or later approved revision.

**Data Pertinent to All Configurations**

Any combination of Configurations A, B or C may be simultaneously installed.

Rev 01. Extension of eligibility to AS 355 models.

**EASA Certification Basis:**

The Certification Basis (CB) for the original product remains applicable to this certificate/ approval.  
The requirements for environmental protection and the associated certified noise and/ or emissions levels of the original product are unchanged and remain applicable to this certificate/ approval.

**Associated Technical Documentation:**

For Configuration A

- Aero Design Ltd. Flight Manual Supplement FMS827.90, Revision 4, dated 31 July 2014
- Aero Design Ltd. Instructions for Continued Airworthiness ICA827.91, Revision 5, dated 31 July 2014.

For Configuration B

- Aero Design Ltd. Instructions for Continued Airworthiness ICA827.93, Revision 3, dated 31 July 2014.

For Configuration C

- Aero Design Ltd. Instructions for Continued Airworthiness ICA827.92, Revision 4, dated 31 July 2014.

or later revisions of the above listed document(s) approved/accepted on behalf of EASA in accordance with the Technical Implementation Procedures of EU/ Canada Bilateral Agreement.

**Limitations/Conditions:**

Approved type of operation - VFR only.

For AS 355, CAT A operations are forbidden.

Prior to installation of this change/repair it must be determined that the interrelationship between this change/repair and any other previously installed change and/ or repair will introduce no adverse effect upon the airworthiness of the product.

- End -





22-0042 (07-92)



Transport  
Canada

Transports  
Canada

**FROM:** ROUTING SYMBOL

**DE:** SYMBOLE D'ACHEMINEMENT \_\_\_\_\_

Edmonton Operations Division, Aircraft Certification  
1100, 9700 Jasper Avenue, NW  
EDMONTON AB T5J 4E6

**#31**

Transport Canada  
1100 - 9700 Jasper Avenue  
Canada Place  
Edmonton AB T5J 4E6



PB031 1924061  
000032 AS4SC  
0408 133404



**01.71**

T5J 4C8 2016.04.08

Attn.: Mr. Jeff Clarke  
Aero Design Ltd.  
9888A Malaspina Road  
POWELL RIVER BC CANADA V8Z 0G3

POSTES

Canada

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CORRESPONDENCE**

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Your file      Votre référence

Our file      Notre référence

Thursday, April 07, 2016

C-15-0427  
SH09-38, Issue #4

Aero Design Ltd.  
9888A Malaspina Rd.  
Powell River, B.C.  
V8A 0G3

<b>SUBJECT:</b>	<b>Approval of</b>	<b>Installation of Quick Release Maintenance Step; Installation of Maintenance Peg Step; Installation of Fixed Cabin Step</b>
	<b>FAA STC:</b>	<b>SR02770NY</b>
	<b>Aircraft:</b>	<b>See attached FAA Approved Model List (AML)</b>
	<b>FAA STC Holder:</b>	<b>Aero Design Ltd.</b>

Enclosed is the original FAA Supplemental Type Certificate SR02770NY and information concerning your responsibility as a holder of a Supplemental Type Certificate SH09-38, Issue #4 issued to a Canadian Applicant.

Yours truly,

F.J.B. Wright  
Technical Team Lead, Engineering  
Prairie and Northern Region  
Phone: 780-495-3856  
E-Mail: [Fred.Wright@tc.gc.ca](mailto:Fred.Wright@tc.gc.ca)

Encl.



United States of America  
Department of Transportation  
Federal Aviation Administration

# Supplemental Type Certificate

## IMPORT

Number: SR02770NY

This certificate issued to: Aero Design Ltd.  
9888A Malaspina Rd.  
Powell River, BC  
V8A 0G3 Canada

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part \* of the Federal Aviation Regulations.

Original Product – Type Certificate Number:                      Make: \*  
\* See attached FAA Approved Model List (AML)                      Model: \*  
No. SR02770NY for a list of approved models  
and applicable regulations.

### Description of Type Design Change:

1. The installation of Quick Release Maintenance Step, Maintenance Peg Step and Fixed Cabin Step to be done in accordance with AERO Design Ltd. Document Control Lists as listed on AML SR02770NY.
2. Operation must be in accordance with Aircraft Flight Manual Supplement, as listed on AML SR02770NY.
3. Instructions for Continued Airworthiness as listed on AML SR02770NY are required for this installation.

### Limitations and Conditions:

1. The installer must determine whether this design change is compatible with previously approved modifications.
2. If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, and revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

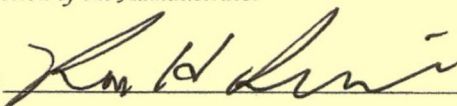

Date of Application: September 24, 2009

Date Reissued: April 13, 2015

Date of Issuance: January 26, 2010

Date Amended: February 29, 2016

By Direction of the Administrator

Signature   
Title  Gaetano Sciortino  
Manager  
New York Aircraft Certification Office

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120).



**FAA APPROVED MODEL LIST (AML) NO. SR02770NY**

**AERO Design Ltd.**

**FOR**

**INSTALLATION OF QUICK RELEASE MAINTENANCE STEP, MAINTENANCE PEG STEP AND FIXED CABIN STEP**

Original Issue Date: January 26, 2010

Amendment Date: February 29, 2016

ITEM	PART	REGULATION	MAKE	MODEL	TCDS	CONFIGURATION A		REQUIRED DOCUMENTATION		AML AMENDMENT DATE
						DESCRIPTION	DOCUMENT CONTROL LIST	INSTRUCTIONS for CONTINUED AIRWORTHINESS	FLIGHT MANUAL SUPPLEMENT	
1	27	Federal Aviation	Airbus Helicopters	AS 350 B, B1, B2, B3, BA, D, D1	H9EU	<b>Quick Release Maintenance Step:</b> Installation of the External Attachment Provisions, (Configuration A), per STC SR02680NY is a prerequisite for this installation.	Aero Design Ltd. Document Control List DCL827A-1 Revision 6, dated 31 July 2014, Transport Canada Approved 31 July 2014, or later Transport Canada approved revisions.	Aero Design Ltd. ICA 827.91 Rev. 5, dated 31 July 2014, Transport Canada accepted 31 July 2014 or later Transport Canada accepted revision.	AERO Design Ltd. Flight Manual Supplement FMS827.90 Revision 4, dated 31 July 2014, Transport Canada Approved 31 July 2014 or later Transport Canada approved revisions.	February 29, 2016
2				AS 355 E, F, F1, F2, N, NP	H11EU					



**FAA APPROVED MODEL LIST (AML) NO. SR02770NY**

**AERO Design Ltd.**

**FOR**

**INSTALLATION OF QUICK RELEASE MAINTENANCE STEP, MAINTENANCE PEG STEP AND FIXED CABIN STEP**

ITEM	PART	REGULATION	MAKE	MODEL	TCDS	CONFIGURATION B		REQUIRED DOCUMENTATION		AML AMENDMENT DATE
						DESCRIPTION	DOCUMENT CONTROL LIST	INSTRUCTIONS for CONTINUED AIRWORTHINESS	FLIGHT MANUAL SUPPLEMENT	
1, continued	27	Federal Aviation	Airbus Helicopters	AS 350 B, B1, B2, B3, BA, D, D1	H9EU	<b>Maintenance Peg Step:</b> Installation of the External Attachment Provisions (Configuration A), per STC SR02680NY is a prerequisite for this installation.	Aero Design Ltd. Document Control List DCL827-2, Revision 4, dated 31 July 2014, Transport Canada Approved 31 July 2014, or later Transport Canada approved revisions.	Aero Design Ltd. ICA 827.93 Rev. 3, dated 31 July 2014, Transport Canada accepted 31 July 2014 or later Transport Canada accepted revision.	N/A	February 29, 2016
2, continued				AS 355 E, F, F1, F2, N, NP	H11EU					



**FAA APPROVED MODEL LIST (AML) NO. SR02770NY**

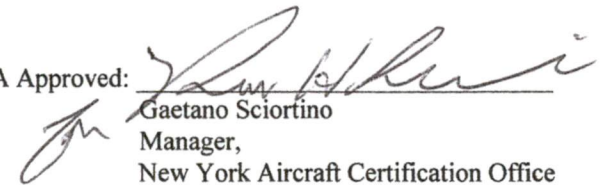
**AERO Design Ltd.**

**FOR**

**INSTALLATION OF QUICK RELEASE MAINTENANCE STEP, MAINTENANCE PEG STEP AND FIXED CABIN STEP**

ITEM	PART	REGULATION	MAKE	MODEL	TCDS	CONFIGURATION C		REQUIRED DOCUMENTATION		AML AMENDMENT DATE
						DESCRIPTION	DOCUMENT CONTROL LIST	INSTRUCTIONS for CONTINUED AIRWORTHINESS	FLIGHT MANUAL SUPPLEMENT	
1, continued	27	Federal Aviation	Airbus Helicopters	AS 350 B, B1, B2, B3, BA, D, D1	H9EU	<b>Fixed Cabin Step</b>	Aero Design Ltd. Document Control List DCL827-3, Revision 7, dated 31 July 2014 or later Transport Canada approved revision.	Aero Design Ltd. ICA 827.92 Rev. 4, dated 31 July 2014, Transport Canada accepted 31 July 2014 or later Transport Canada accepted revision.	N/A	February 29, 2016
2, continued				AS 355 E, F, F1, F2, N, NP	H11EU					

FAA Approved:

  
Gaetano Sciortino  
Manager,  
New York Aircraft Certification Office



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Engine and Propeller Directorate

New York Aircraft Certification Office  
1600 Stewart Avenue  
Suite 410  
Westbury, NY 11590  
(516) 228-7300, Fax: (516) 794-5531

**MAR 16 2016**

Mr. Jack Staal  
Certification Technologist, Aircraft Certification  
Transport Canada  
1100 9700 Jasper Avenue NW  
Edmonton Alberta  
Canada T5J 4E6



Subject: Re-issuance and Amendment of Supplemental Type Certificate (STC) SR02770NY

Dear Mr. Staal:

This letter refers to your request for the reissuance and amendment of an STC under the terms of the US/Canada Bilateral Aviation Safety Agreement (BASA) to Aero Design Ltd. for installation of quick release maintenance steps on Airbus Helicopters, Models AS 350B/B1/B2/B3/BA/D/D1 and AS 355E/F/F1/F2/N/NP Series rotorcraft. The corresponding FAA Project Number is ST08080NY-R (TCCA STC SH09-38, Issue No. 4, Approved August 7, 2009 and Issued February 10, 2015).

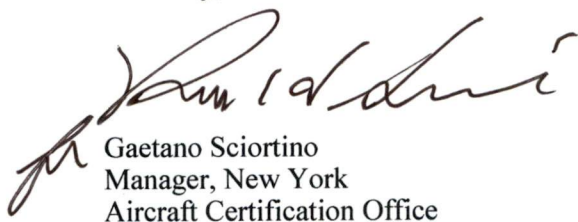
We have reviewed the information submitted by your office. In recognition of TCCA STC SH09-38 and the existing Bilateral Aviation Safety Agreement Implementation Procedures for Airworthiness between the United States and Canada, we are pleased to enclosed STC Number SR02770NY, re-issued on April 13, 2015 and amended on February 29, 2016.

In accordance with the US/Canada bilateral relationship using TCCA compliance to the maximum extent, this STC includes references to documents that include the words "or later TCCA approved/accepted revisions". It is expected that as State of Design responsible for the STC, TCCA will coordinate any major/significant changes, as deemed appropriate, with the FAA prior to TCCA acceptance.

Please forward the enclosed STC and a copy of "Information Concerning Your Responsibility as a Holder of a Supplemental Type Certificate, Issued to a Canadian Applicant" to Aero Design Ltd. A copy of the STC and required documents should accompany each installation. Also, your attention is directed to the limitations and conditions specified in the STC.

If you have any questions relating to the above information, please contact Mr. Ricardo Garcia at (516) 228-7331.

Sincerely,

  
Gaetano Sciortino  
Manager, New York  
Aircraft Certification Office

2 Enclosures



NEW ENGLAND REGION  
NEW YORK AIRCRAFT CERTIFICATION OFFICE  
1600 STEWART AVENUE, SUITE 410  
WESTBURY, NEW YORK 11590

**INFORMATION CONCERNING YOUR RESPONSIBILITY AS HOLDER OF A  
SUPPLEMENTAL TYPE CERTIFICATE ISSUED TO A CANADIAN APPLICANT**

This STC is official indications of FAA approval of your installation and may be used to authorize identical installation on other aircraft of the same model, subject to the limitation noted in the STC. It may be transferred, or otherwise made available to another party by means of a licensee arrangement; however, you are requested to advise this office when you transfer or grant licensee rights to the STC in order that we may take the necessary recording or reissuance action.

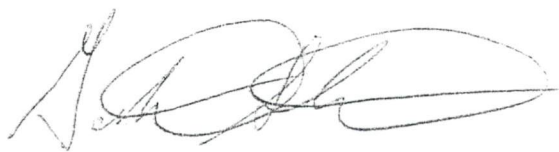
If you plan to manufacture and sell parts for installation on type certificated aircraft, please review FAR 21.502, which is applicable to parts imported into the U.S.

A copy of the STC and required documents should accompany each kit and installation. Also, your attention is directed to the limitations and conditions specified in the STC.

As recipient of this approval, except as provided in FAR21.3(d), you are required to report any failure, malfunction, or defect in any product or part manufactured by you that you have determined has resulted or could result in any of the occurrences listed in FAR 21.3(c).

The report should be communicated initially by telephone and subsequently in writing to the Manager, New York Aircraft Certification Office, telephone (516) 228-7300, mailing address: 1600 Stewart Avenue, Suite 410, Westbury, New York 11590. This first contact should take place within 24 hours after it has been determined that the failure required to be reported has occurred.

FAA Form 8010-4, Malfunction or Defect Report, or any other appropriate format is acceptable in transmitting the required details.



Gaetano Sciortino  
Manager  
New York Aircraft Certification Office



Transport  
Canada

Transports  
Canada

1100 9700 Jasper Avenue NW  
Edmonton, Alberta, T5J 4E6  
Canada

Your file      Votre référence

Our file      Notre référence  
**SR02770NY**

9 June 2015

C-15-0427  
SH09-38, Iss. 4

Department of Transportation  
Federal Aviation Administration  
New York Aircraft Certification Office ANE-170  
1600 Stewart Avenue, Suite 410  
Westbury, NY, 11590  
USA

Attention: Mr Gaetano Sciortino

**Subject: STC SH09-38 Issue 4, Airbus Helicopters AS350/AS355, Installation of Cabin Steps, Reissue of FAA STC SR02770NY, Aero Design Ltd.**

We have received an application from a Canadian company, Aero Design Ltd., for the reissue of a Canadian Supplemental Type Certificate and reissue of the FAA STC SR02770NY for amendments to the Cabin Steps installation on the Airbus AS350/AS355 helicopters.

The Certification Plan CP827 Rev 1 gives a description of the changes with this reissue.

We have reviewed the applicant's submission and certify that the design change complies with the basis of certification specified in Canadian Type Certificates H-83 and H-87. We have issued STC SH09-38 Iss 4 dated February 10, 2015.

We also confirm that compliance is demonstrated with FAA Type Certificates H9EU and H11EU unless additional technical conditions are applied by the FAA.

*"In accordance with the FAA Memorandum on Deviation Request to FAA Order 8110.4C, 8110.115, and 8110.54A dated October 9, 2012, TCCA confirms that ICAs related to this STC application meet the content and format of MSI 53 (determined to be equivalent to FAA Order 8110.54, 14 CFR 23.1529, 25.1529, 27.1529, 29.1529, 25.1729, ....2/*

*31.82, 33.4 Part 26 as appropriate) and, that TCCA will take appropriate corrective actions for any ICA issues related to this STC which may arise during post-certification sampling to be conducted by the FAA."*

**Canada**


Please consider this to be a formal application for an FAA STC reissue under the provisions of the Canada/U.S. Bilateral Airworthiness Agreement.

In support of this application documentation per the enclosed Aero Design Ltd letter of 13 April 2015 is attached. Soft copies of the documents are included on the enclosed CD.

The original of FAA STC SR02770NY Issued January 26, 2010 with the transfer endorsement completed is also enclosed with this package. (This transfer protocol was FAA requested for a previous FAA STC reissue application for Aero Design Ltd and thus has been completed herewith as well.) Note the AML was included.

Please contact the undersigned if needed.

Yours truly,

  
J. Staal

Certification Technologist  
Engineering, Edmonton  
Prairie and Northern Region  
780-495-5227  
[jack.staal@tc.gc.ca](mailto:jack.staal@tc.gc.ca)

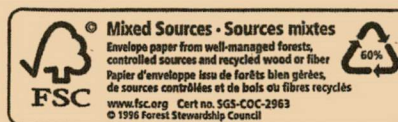
Enclosure(s)

cc: Aero Design Ltd., Powell River, B.C.

# Canada

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TOUTE CORRESPONDANCE







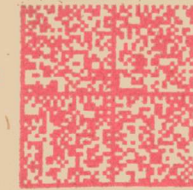
Transport  
Canada

Transports  
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FROM: ROUTING SYMBOL  
DE: SYMBOLE D'ACHEMINEMENT \_\_\_\_\_

**EDMONTON OPERATIONS DIVISION  
ENGINEERING  
1100, 9700 JASPER AVENUE, NW  
EDMONTON AB T5J 4E6 #31**

**Transport Canada  
1100 - 9700 Jasper Avenue  
Canada Place  
Edmonton AB T5J 4E6**



PB031 1924061  
002859 IaHbK  
0511 142658



**Attn.: Mr. Jeff Clarke  
Aero Design Ltd.  
9888A Malaspina Road  
POWELL RIVER BC CANADA V8Z 0G3**

**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

**APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527**

**BLOCK 1**

<b>Name of the applicant for the design change approval:</b>	Aero Design Ltd.
<b>Description of the design change:</b>	Installation of Fixed Cabin Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
<b>Certification Basis of design change and revision date:</b>	FAR 27, Amendment 27-20
<b>CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:</b>	
	Section 0-3 of Supplemental ICA (ICA 827.92)
<b>CAR Standard 513.05 (1) (g) (iv): Installation Instructions:</b>	Installation Drawing 82705, 82706, 82709, 82750, 82751, 82752, 82770, 82771, 82772, 82773

**BLOCK 2**

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.92, Rev. 4)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5

Juff May 11/15

Original Signature

attached.

C-14-0821.

Kim



**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A

**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

<b>Regulatory Standard Reference Column 1</b>	<b>Design Approval Holder (DAH) ICA Reference Column 2</b>	<b>Applicant Means of Compliance Supplemental ICA Requirements Column 3</b>
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 thru 25-6
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-8
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-9
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A




## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### BLOCK 3

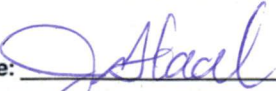
Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

<b>A527.4 AWL - Separate Section 1</b> The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Section 4
---	--	---------------------------------

### BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.	
Applicants Signature: <u></u>	Date: <u>01 August 2014</u>
Applicants Name: <u>Jeff Clarke, Vice President</u>	

### BLOCK 5 – Minister's Statement of Acceptability

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.			
Reviewer's Name: <u>Jack Staal</u>	Phone # <u>780-495-5227</u>	Email: <u>jack.staal@tc.gc.ca</u>	Mail Routing Symbol: <u>FAK 1</u>
Signature: <u></u>	Date: <u>10 Feb 2015</u>	NAPA Number: <u>C-14-0821</u>	

11 MAY 2015  
(missed signing Feb 10<sup>th</sup>)

Rev 4

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 827.92

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### AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES

### FIXED CABIN STEPS

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

#### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Fixed Cabin Step installed in accordance with Aero Design Ltd. Document Control List DCL827-3, Revision 7, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 4  
Date: 31 July 2014

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Aero Design Ltd.



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**RECORD OF REVISIONS**

Revision Number	Issue Date	Date Inserted	By
0	20 October 2008		Original Issue
1	23 July 2009		
2	28 June 2010		
3	29 November 2012		
4	31 July 2014		

**LIST OF EFFECTIVE PAGES**

List of Revisions	Revision 0 (Original Issue)	20 October 2008
	Revision 1	23 July 2009
	Revision 2	28 June 2010
	Revision 3	29 November 2012
	Revision 4	31 July 2014

**List of Effective Pages**

<u>Description</u>	<u>Page</u>	<u>Revision</u>	<u>Description</u>	<u>Page</u>	<u>Revision</u>
Cover	1	4	25-50-00	11	4
Revision Record	2	4		12	4
Table of Contents	3	3		13	4
00-00-00	4	4		14	4
	5	3		15	4
04-00-00	6	4		16	4
05-00-00	7	4		17	4
	8	4		18	4
25-00-00	9	4		19	4
	10	4		20	3

**NOTE**

Revised text is indicated by a black vertical line. A revised page with only a vertical line next to the page number indicates that text has shifted or that non-technical correction(s) were made on that page. Insert latest revision pages; dispose of superseded pages.



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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Fixed Cabin Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Fixed Cabin Step. Requests for a copy may be made in writing to:

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

The Long Fixed Cabin Step (82705-01), Long Fixed Commuter Cabin Step (82751-01-XX), and Long DART Step Conversion (82771-01 and 82773-01) are NOT compatible with the Aero Design Ltd. Long or Extra Large Cargo Baskets installed in accordance with STC SH08-16 (drawing 78401 or 94001), but may be installed on the opposite side of the helicopter to the Long or Extra Large Cargo Basket.

The Short Fixed Cabin Step (82706-01 and 82706-11), Short Fixed Commuter Cabin Step (82750-01-XX), and Short DART Step Conversion (82770-01 and 82772-01) are compatible with all Aero Design Ltd. Cargo Baskets installed in accordance with STC SH08-16 in any mounting configuration.

The Full Length Cabin Step (82709-01) and Full Length Commuter Cabin Step (82752-01-XX) are NOT compatible with any Aero Design Ltd. Cargo Baskets installed in accordance with STC SH08-16, but may be installed on the opposite side of the helicopter to the Cargo Basket.

## 0-5 GENERAL DESCRIPTION

The Fixed Cabin Step installation consists of a step assembly which is attached to the forward end of the skid tube, running aft to the aft cross tube (full length configuration), to the forward cross tube (long configuration), or a bracket attached to the skid tube located under the door (short configuration). The different configurations are provided to accommodate Aero Design Ltd. Quick Release Cargo Baskets while providing the longest step possible for access to the cabin.

The step itself consists of an aluminum extrusion attached to a sheet metal assembly that attaches to the forward end of the skid tube. Aluminum brackets are used to attach the aft end.

The commuter step is an additional section added to the basic step that provides 3 steps up to the cabin. The steps are similar to the non-commuter configuration, but are reinforced at the forward end.

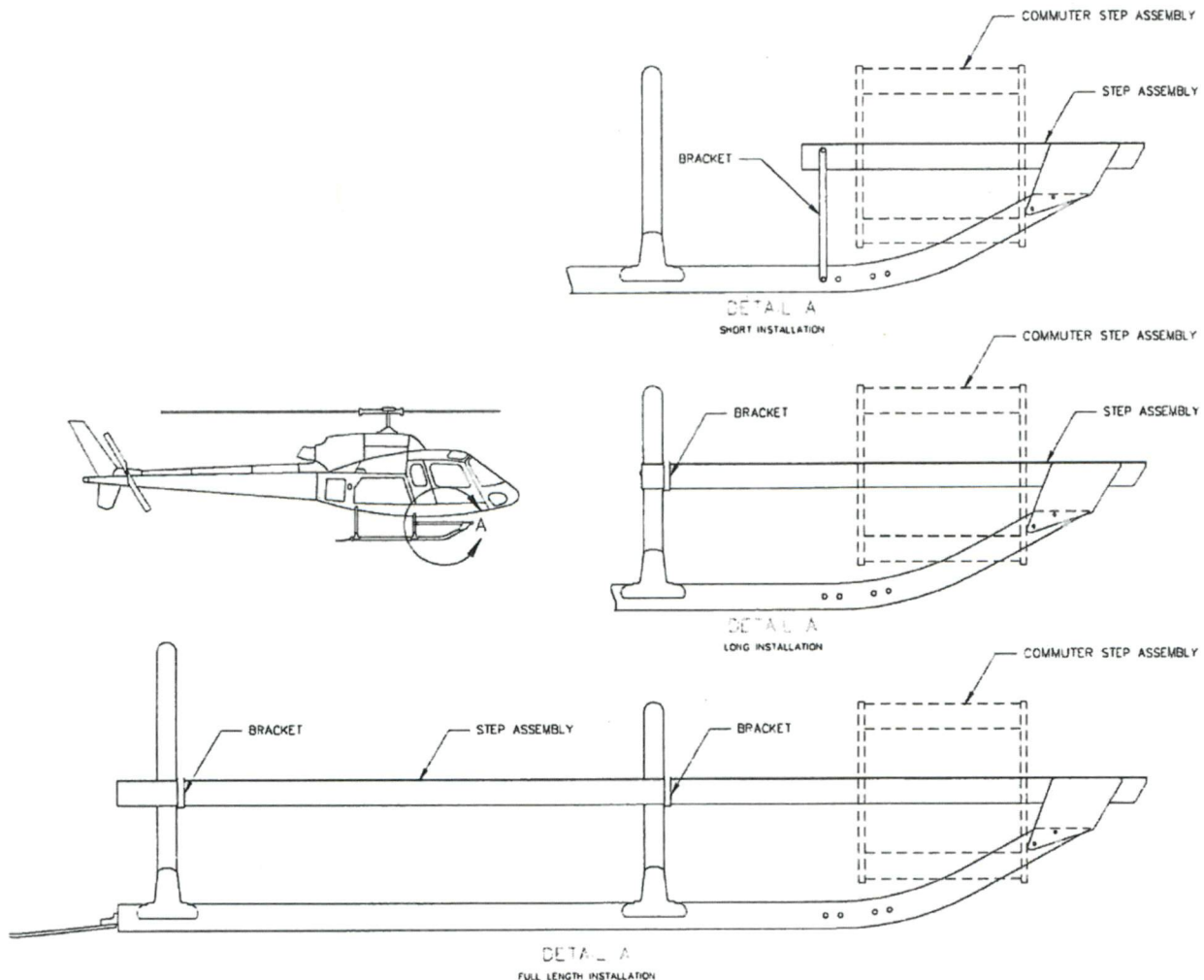


Figure 0-1 – AS350 Fixed Cabin Step Installations

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

### *EASA*

The Airworthiness Limitations section is approved and variations must also be approved.

No additional airworthiness limitations have been imposed due the installation of the Fixed Cabin Steps.



## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Fixed Cabin Step.

#### *Daily Inspection*

##### 1. Inspection Area: Step

- a) Full Length step only: Inspect the bracket and clamp attaching the step to the aft cross tube for condition and security.
- b) Long and Full Length steps only: Inspect the bracket and clamp attaching the step to the forward cross tube for condition and security.
- c) Short step only: Inspect bracket attaching aft end of step to skid tube for condition and security.
- d) Inspect the forward step attachment sheet metal bracket for condition and security.
- e) Commuter steps only: Inspect the attachments of the commuter step section to the basic step for condition and security.

#### *100 Hour or Annual Inspection*

##### 1. Inspection Area: Step

- a) Visually inspect all mounting hardware for condition and security.
- b) Visually inspect step, mounting brackets, and clamps for condition and security.
- c) Long and Full Length steps only: Check clamps for slipping on the cross tube(s). Step should be parallel to the ground (+/- 0.25"), use height at attachment to forward tip of skid tube as a reference.

#### *Special Inspections*

1. Following a hard landing inspect the Fixed Cabin Step installation in accordance with the 100 hour or annual inspection listed above.
2. Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601

**5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS**

If damage is found in the inspections above, repair in accordance with the instructions below.

## 1. Step Assembly (including commuter step section)

Part	Type of Damage	Max. Allowable	Repair
Brackets, Clamps	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Bent Lugs	None	N/A
Step Section	Corrosion	2" x 2" x 0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 1" long	Blend up to 0.010" deep with scotchbrite.
	Cracks / Dents	None	N/A
	Permanent Deflection of Step	0.25" max at middle of step	None

## 2. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

¼-28 insert: 3591-4CN375

**5-3 PROTECTIVE TREATMENT INFORMATION**

## 1. Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint.

The tread areas have two strips of 3M Safety-Walk grip tape. If the grip tape is damaged replace with equivalent grip tape, or apply Randolph X1567 Wingwalk grip paint or equivalent to the top surface.

## 2. Brackets / Clamps

The brackets and clamps are supplied painted, powder coated or anodized. If the finish is damaged, touch up with polyurethane paint.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

The Fixed Cabin Step Installation may be applied to the right and/or left side of the helicopter.

Installation of the Commuter Step (any configuration) is identical to the standard installation. Commuter Steps are "sided" right and left. The side is identified in the part number by the last dash number: -01 is Right, -02 is Left.

### 25-1 SHORT STEP INSTALLATION

Configuration: 82706-01 (standard), 82706-11 (extra short), 82750-01-XX (commuter), 82770-01 (DART Conversion), 82772-01 (DART Conversion, old style)

Refer to Figure 25-1 and 25-2.

1. Remove existing bolt, nut, and cups from last float provision hole at forward end of skid tube. For extra short configuration use second hole from front.
2. Insert Bushing 82733-02 into hole in skid tube. Set Bracket 82733-01 (82782-01 for DART conversion) over bushing. Insert AN4-42A bolt with NAS1149F0463P washer through bracket and bushing. Install NAS1149F0463P washer and MS21044N4 nut on bolt. Do not tighten nut.
3. Set step assembly (82715-01 standard, 82719-01 extra short, 82718-01-XX commuter, 82770-10 DART Conversion, 82772-10 Dart Conversion) on bracket. Insert AN4-42A Bolt with NAS1149F0463P Washer through bracket and step. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt. Do not tighten nut.

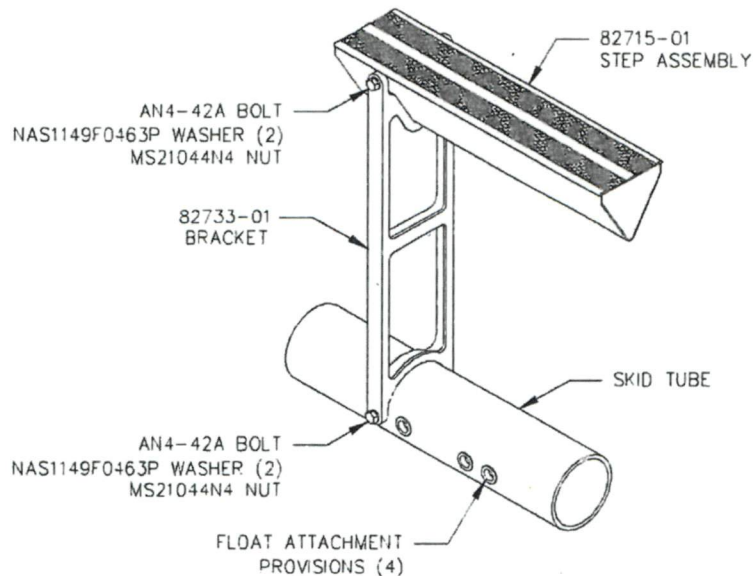


Figure 25-1 – Short Step Aft Attachment

4. At the forward end of the step, install two (2) AN3-35A Bolts, NAS1149F0363P Washers (2), and MS21044N3 Nuts through existing holes in forward end of skid tube.

DART Conversion only: use two (2) AN3-37A Bolts.

## 5. Tighten all hardware as follows:

AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)

AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

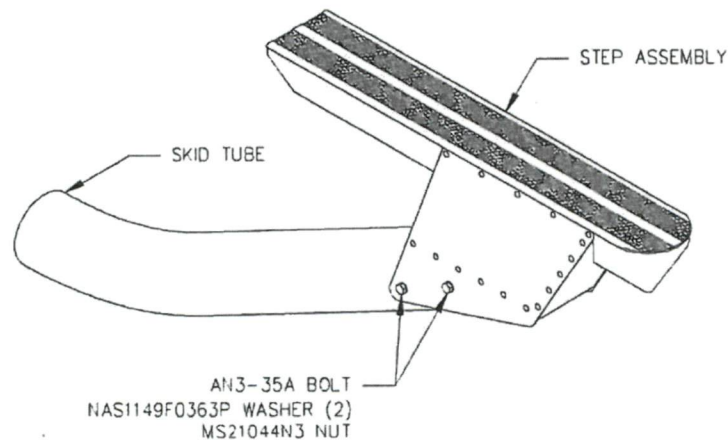


Figure 25-2 – Forward Step Attachment

**25-2 SHORT STEP REMOVAL**

Configuration: 82706-01 (standard), 82706-11 (extra short), 82750-01-XX (commuter), 82770-01 (DART Conversion), 82772-01 (DART Conversion, old style)

Refer to figure 25-1 and 25-2.

1. Remove AN3-35A Bolts (or AN3-37A Bolts), NAS1149F0363P Washers (2), and MS21044N3 Nuts attaching forward end of step to skid tube.
2. Remove AN4-42A Bolt, NAS1149F0463P Washers (2), and MS21044N4 Nut attaching step to bracket. Remove step.
3. Remove AN4-42A Bolt, NAS1149F0463P Washers (2), and MS21044N4 Nut attaching bracket to skid tube. Remove bracket and bushing from skid tube.
4. Install 22201TK050-072X Screw, 350A41-1095-20 Cup (2), 23119TK050X Washer, and ASN52320BH050N Nut in hole in skid tube. Refer to Illustrated Parts book and Maintenance Manual.



### 25-3 LONG STEP INSTALLATION

Configuration: 82705-01 (standard), 82751-01-XX (commuter), 82771-01 (DART Conversion), 82773-01 (DART Conversion, old style)

Refer to Figure 25-3 thru 25-5.

1. Attach Clamp Assembly 78620-01 to Bracket 82723-01 (82780-01 or 82785-01 for DART Conversion) with one (1) AN4-4A Bolt and NAS1149F0463P Washer. Orient clamp with T-bolt side inboard, and bracket forward. Do not tighten bolt. Slide bracket with clamp onto aft end of step.

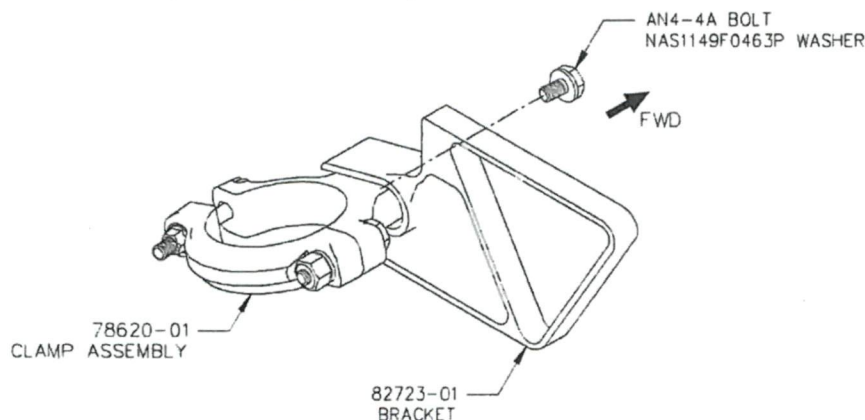


Figure 25-3 – Clamp and Bracket Assembly  
(Right side shown, left side opposite)

2. Locate forward end of step assembly (82717-01 standard, 82718-02-XX commuter) on skid tube. Install two (2) AN3-35A Bolts, NAS1149F0363P Washers (2), and MS21044N3 Nuts into existing holes in forward end of skid tube.

DART Conversion Only: Use step assembly 82771-10 or 82773-10; two (2) AN3-37A bolts.

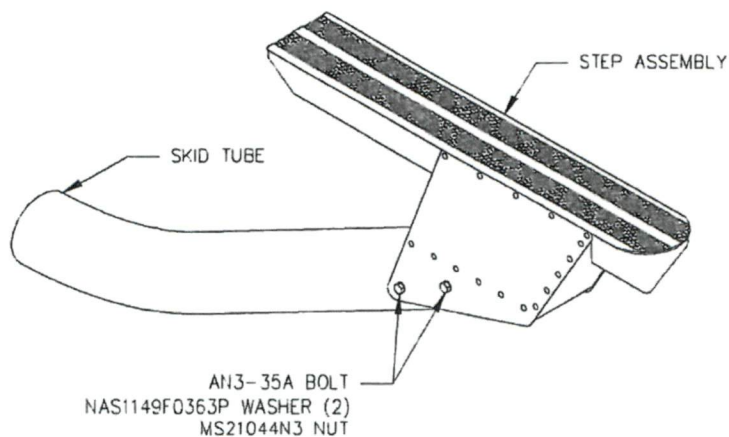


Figure 25-4 – Forward Step Attachment

3. Slide clamp and bracket assembly aft along step until clamp can be attached to forward cross-tube.

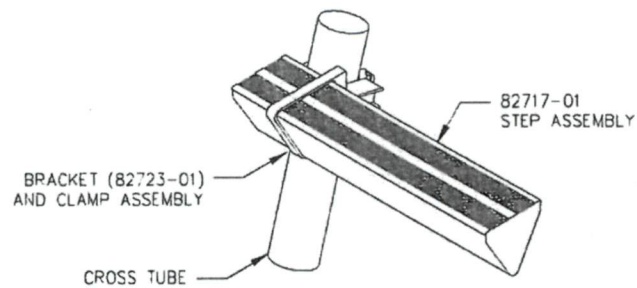


Figure 25-5 – Long Step Aft Attachment

4. Tighten clamp bolts to prevent the clamp from slipping on the cross tube.
5. Level the step parallel to the ground (+/- 0.25"). Nominal height is 17.5".
6. Tighten all hardware as follows:
  - AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)
  - AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

#### 25-4 LONG STEP REMOVAL

Configuration: 82705-01 (standard), 82751-01-XX (commuter), 82771-01 (DART Conversion), 82773-01 (DART Conversion, old style)

Refer to Figure 25-3 thru 25-5.

1. Remove AN3-35A Bolts (or AN3-37A Bolts), NAS1149F0363P Washers, and MS21044N3 Nuts attaching forward end of step to skid tube.
2. Remove bolts securing clamp to cross tube.
3. Remove step assembly.

## 25-5 FULL LENGTH STEP INSTALLATION

Configuration: 82709-01 (standard), 82752-01-XX (commuter)

Refer to Figure 25-6 thru 25-8.

1. Attach Clamp 78620-01 to Bracket 82723-01 with AN4-4A Bolt and NAS1149F0463P Washer. Orient clamp with T-bolt side inboard, and bracket on forward side of cross tube. Do not tighten bolt. Slide bracket with clamp onto aft end of step. See figure 25-6. Repeat for second Bracket.

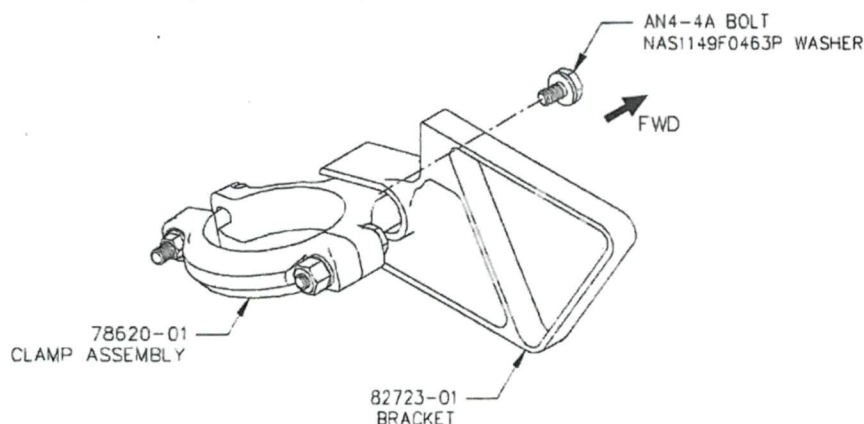


Figure 25-6 – Clamp and Bracket Assembly  
(Right side shown, left side opposite)

2. Locate forward end of step assembly on forward end of skid tube. Install two (2) AN3-35A Bolt, NAS1149F0363P Washers (2), and MS21044N3 Nut into existing holes in forward end of skid tube. See figure 25-7.

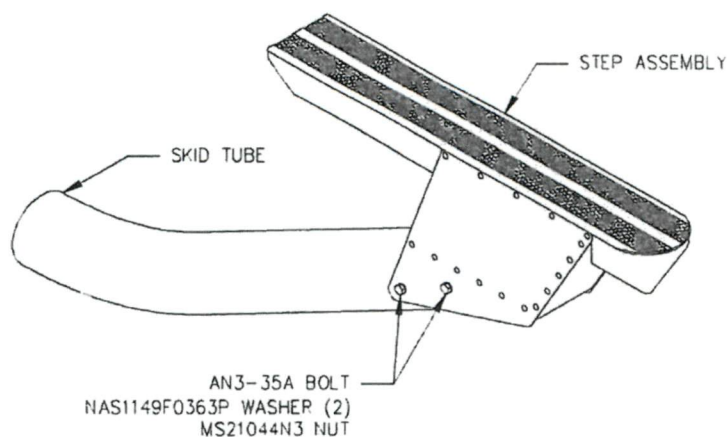


Figure 25-7 – Forward Step Attachment

3. Slide clamp and bracket (82723-01) assembly along step until clamp can be attached to forward cross-tube. Repeat at aft cross tube. See Figure 25-8.

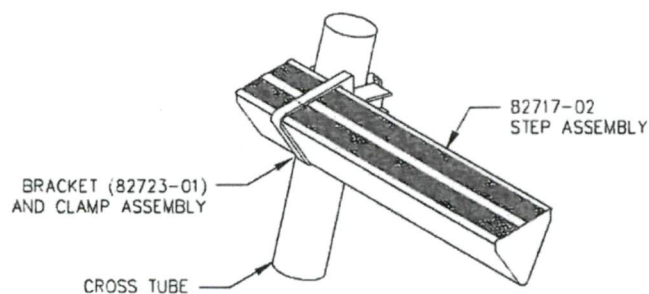


Figure 25-8 – Aft Step Attachment

4. Tighten clamp bolts to prevent the clamp from slipping on the cross tube.
5. Level the step parallel to the ground (+/- 0.25"). Nominal height is 17.5".
6. Tighten all hardware as follows:
  - AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)
  - AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

## 25-6 FULL LENGTH STEP REMOVAL

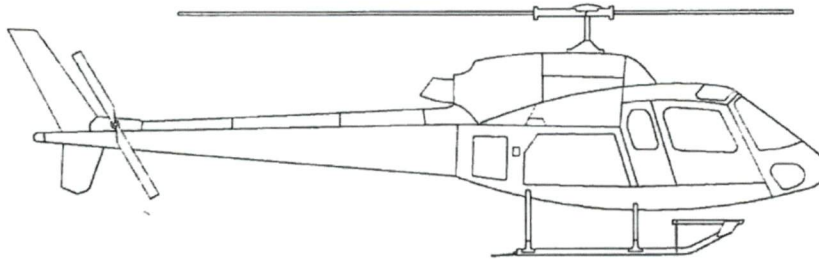
Configuration: 82709-01

Refer to figures 25-6 thru 25-8.

1. Remove fasteners from clamps on forward and aft cross tubes.
2. Remove AN3-35A bolts, NAS1149F0363P Washers, and MS21044N3 Nuts attaching forward end of step to forward tip of skid tube.
3. Remove step assembly.

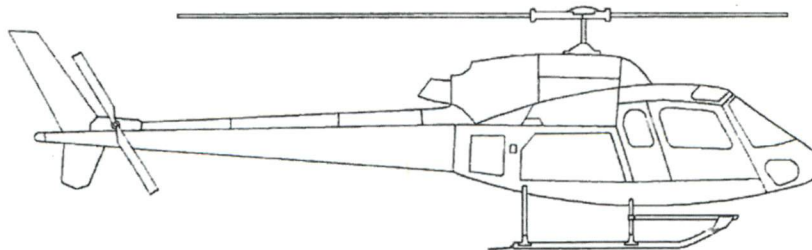


## 25-7 BILL OF MATERIALS



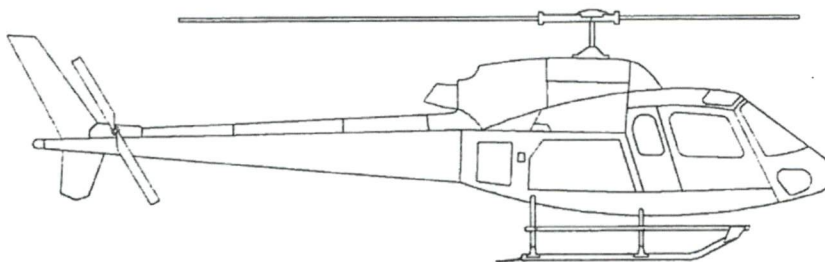
## SHORT CABIN STEP INSTALLATION

Qty.	Part Number	Description
	<b>82706-01</b>	<b>Short Cabin Step Installation</b>
. 1	82715-01	Step Assembly
	82706-11	<b>Extra Short Cabin Step Installation</b>
. 1	82719-01	Extra Short Step Assembly
. 1	82733-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

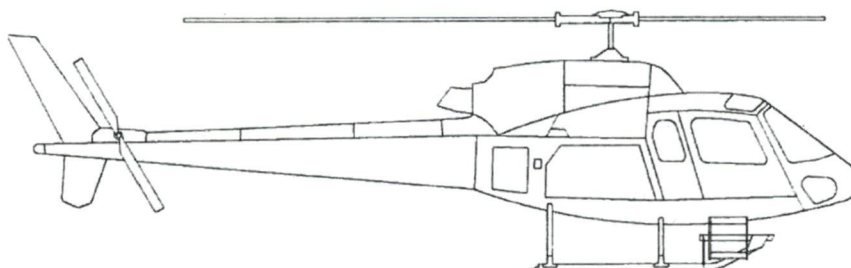


## LONG CABIN STEP INSTALLATION

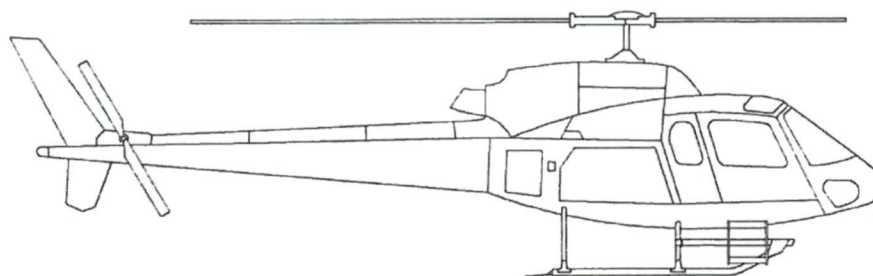
Qty.	Part Number	Description
	<b>82705-01</b>	<b>Long Cabin Step Installation</b>
. 1	82717-01	Step Assembly
. 1	82723-01	Bracket
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 1	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

**FULL LENGTH CABIN STEP INSTALLATION**

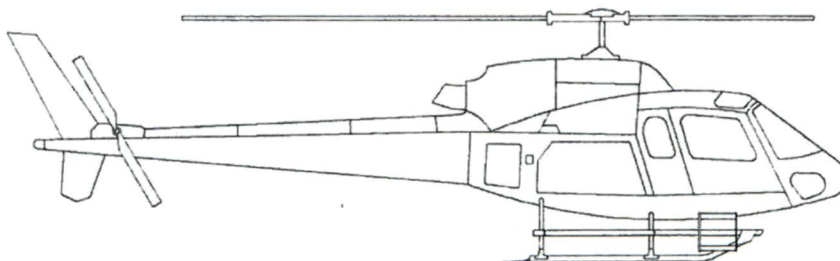
Qty.	Part Number	Description
	<b>82709-01</b>	<b>Full Length Cabin Step Installation</b>
. 1	82717-02	Step Assembly
. 2	82723-01	Bracket
. 2	78620-01	Clamp Assembly
. 2	AN4-4A	Bolt
. 2	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

**SHORT COMMUTER CABIN STEP INSTALLATION**

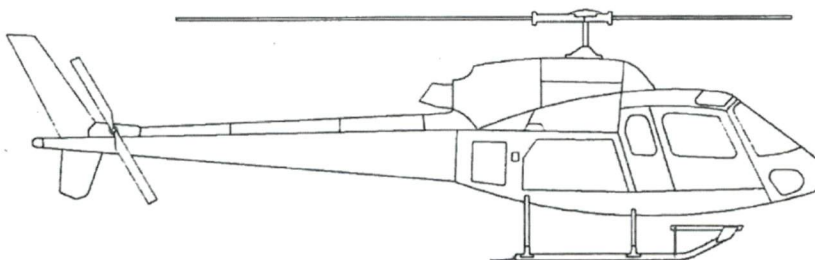
Qty.	Part Number	Description
	<b>82750-01-01</b>	<b>Short Commuter Cabin Step Installation (RH)</b>
	<b>82750-01-02</b>	<b>Short Commuter Cabin Step Installation (LH)</b>
. 1	82718-01-01	Step Assembly (RH)
. 1	82718-01-02	Step Assembly (LH)
. 1	82733-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

**LONG COMMUTER CABIN STEP INSTALLATION**

Qty.	Part Number	Description
	<b>82751-01-01</b>	<b>Long Commuter Cabin Step Installation (RH)</b>
	<b>82751-01-02</b>	<b>Long Commuter Cabin Step Installation (LH)</b>
. 1	82718-02-01	Step Assembly (RH)
. 1	82718-02-02	Step Assembly (LH)
. 1	82723-01	Bracket
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 2	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

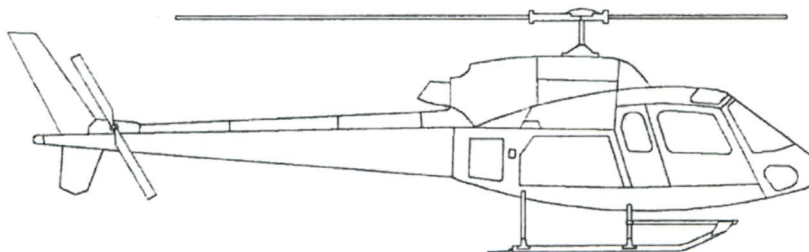
**FULL LENGTH COMMUTER CABIN STEP INSTALLATION**

Qty.	Part Number	Description
	<b>82752-01-01</b>	<b>Full Length Commuter Cabin Step Installation (RH)</b>
	<b>82752-01-02</b>	<b>Full Length Commuter Cabin Step Installation (LH)</b>
. 1	82718-03-01	Step Assembly (RH)
. 1	82718-03-02	Step Assembly (RH)
. 2	82724-01	Bracket
. 2	78620-01	Clamp Assembly
. 2	AN4-4A	Bolt
. 3	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



### SHORT CABIN STEP INSTALLATION - DART CONVERSION

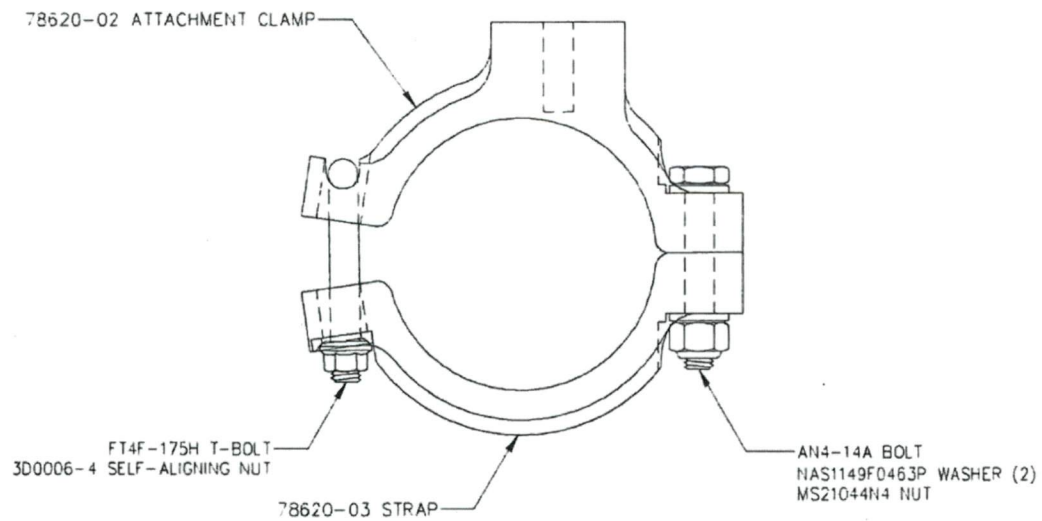
Qty.	Part Number	Description
	<b>82770-01</b>	<b>Short Cabin Step Installation – DART Conversion</b>
	<b>82772-01</b>	<b>Short Cabin Step Installation – DART Conversion (old style)</b>
. 1	82770-10	Step Assembly (82770-01)
. 1	82772-10	Step Assembly (82772-01)
. 1	82782-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-37A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



### LONG CABIN STEP INSTALLATION - DART CONVERSION

Qty.	Part Number	Description
	<b>82771-01</b>	<b>Long Cabin Step Installation – DART Conversion</b>
	<b>82773-01</b>	<b>Long Cabin Step Installation – DART Conversion (Old Style)</b>
. 1	82771-10	Step Assembly (82771-01)
. 1	82773-10	Step Assembly (82773-01)
. 1	82780-01	Bracket (82771-01)
. 1	82785-01	Bracket (82773-01)
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 1	NAS1149F0463P	Washer
. 2	AN3-37A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



**CLAMP ASSEMBLY**

Qty.	Part Number	Description
	<b>78620-01</b>	<b>Clamp Assembly</b>
. 1	78620-02	Attachment Clamp (with mounting pad)
. 1	78620-03	Strap (no mounting pad)
. 1	AN4-14A	Bolt
. 2	NAS1149F0463P	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	3D0006-4	Self Aligning Nut

**25-8 WEIGHT AND BALANCE****Standard**

P/N	Description	Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
82706-01	Short Cabin Step Installation	4.2	69.1	290.2	39.4	165.5
82705-01	Long Cabin Step Installation	5.0	76.2	381.0	39.4	197.0
82709-01	Full Length Cabin Step Installation	9.8	107.9	1057.4	39.4	386.1
82750-01-XX	Short Commuter Cabin Step Installation (-01 RH / -02 LH)	12.2	70.7	862.2	41.9	511.1
82751-01-XX	Long Commuter Cabin Step Installation (-01 RH / -02 LH)	13.0	73.3	953.0	41.7	542.6
82752-01-XX	Full Length Commuter Cabin Step Installation (-01 RH / -02 LH)	17.8	91.5	1629.4	41.1	731.7
82770-01	Short Cabin Step Installation – DART Conversion	5.0	69.5	347.5	39.4	197.0
82771-01	Long Cabin Step Installation – DART Conversion	6.5	69.5	451.8	39.4	256.1
82772-01	Short Cabin Step Installation – DART Conversion, Old Style	6.8	77.1	524.3	39.4	267.9
82773-01	Long Cabin Step Installation – DART Conversion, Old Style	9.5	77.1	732.5	39.4	374.3

**Metric**

P/N	Description	Weight	Longitudinal		Lateral	
		kg	arm mm	moment mm-kg	Arm Mm	moment mm-kg
82706-01	Short Cabin Step Installation	1.9	1755	3335	1000	1900
82705-01	Long Cabin Step Installation	2.3	1935	4378	1000	2260
82709-01	Full Length Cabin Step Installation	4.4	2741	12155	1000	4434
82750-01-XX	Short Commuter Cabin Step Installation (-01 RH / -02 LH)	5.5	1795	9910	1064	5874
82751-01-XX	Long Commuter Cabin Step Installation (-01 RH / -02 LH)	5.9	1862	10953	1060	6236
82752-01-XX	Full Length Commuter Cabin Step Installation (-01 RH / -02 LH)	8.1	2325	18727	1044	8410
82770-01	Short Cabin Step Installation – DART Conversion	2.3	1765	3994	1000	2262
82771-01	Long Cabin Step Installation – DART Conversion	2.9	1765	5192	1000	2941
82772-01	Short Cabin Step Installation – DART Conversion, Old Style	3.1	1958	6026	1000	3077
82773-01	Long Cabin Step Installation – DART Conversion, Old Style	4.3	1958	8418	1000	4299

Note: Lateral arms are given for right side installation. For installation on left side, lateral arms are negative.

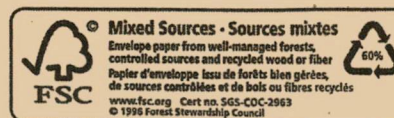
**25-9 STRUCTURAL FASTENER DATA**

Refer to Standard Practices Manual for torque values not listed in this ICA.

# Canada

PLEASE USE ROUTING SYMBOL ON ALL CORRESPONDENCE

PRIÈRE D'INDIQUER VOTRE SYMBOLE D'ACHÈVEMENT SUR  
TOUTE CORRESPONDANCE





Transport Canada Transports Canada

FROM: ROUTING SYMBOL  
DE: SYMBOLE D'ACHEMINEMENT \_\_\_\_\_

**EDMONTON OPERATIONS DIVISION  
ENGINEERING  
1100, 9700 JASPER AVENUE, NW  
EDMONTON AB T5J 4E6 #31**

**Government of Canada  
9700 Jasper Avenue  
Canada Place  
Edmonton AB T5J 4C8**



PB031 1924061  
002760 YCH48  
0306 145236



**Attn.: Mr. Jeff Clarke  
Aero Design Ltd.  
9888A Malaspina Road  
POWELL RIVER BC CANADA V8Z 0G3**





Transport  
Canada

Transports  
Canada

1100 9700 Jasper Avenue NW  
Edmonton, Alberta, T5J 4E6  
Canada

Your file 827  
Votre référence

Our file C-14-0821  
Notre référence  
SH09-38 Iss. 4

12 January 2015

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, British Columbia  
Canada V8A 0G3

**Subject: STC SH09-38 Issue 4, Airbus Helicopters AS350 & AS355 Installation of: Quick Release Maintenance Steps, Maintenance Peg Steps, Fixed Cabin Steps.**

This Supplemental Type Certificate, SH09-38 Issue 4, is issued in response to your application. Included with this original signature STC SH09-38 Issue 4 are documents bearing original Transport Canada signatures.

The transfer of this STC SH07-56 Issue 3 in the name of another person requires the prior approval from the Minister in accordance with Section 521.357 of the Canadian Aviation Regulations (CAR).

Embodiment of modifications requiring certification of detail part fabrication and installation, in accordance with approved data identified on the certificate, is considered to be a maintenance activity and the requirements of subsection 571.06(4) of the CARs will apply.

A Canadian Holder is required to fulfill the responsibilities of a Design Approval Document Holder in accordance with Division VIII of Subpart 521 of the CAR, including the reporting of any service difficulties experienced with their product. Therefore, should you become aware of any defect, malfunction or failure resulting from the design change, it is your responsibility to submit a Service Difficulty Report to Transport Canada.

Yours truly,

J. Staal  
Certification Technologist  
Engineering, Edmonton  
Prairie and Northern Region  
780-495-5227  
[jack.staal@tc.gc.ca](mailto:jack.staal@tc.gc.ca)

Enclosure(s)

Canada

Enclosure List

Supplemental Type Certificate SH09-38 Issue 4  
Flight Manual Supplement FMS827.90 Rev 4 dated 31 July 2014  
Document Control List DCL827-1 Rev 6 dated 31 July 2014  
Document Control List DCL827-11 Rev 4 dated 31 July 2014  
Document Control List DCL827-2 Rev 4 dated 31 July 2014  
Document Control List DCL827-3 Rev 7 dated 31 July 2014  
Document Control List DCL827-13 Rev 6 dated 31 July 2014  
MSI53 for ICA827.91 Rev 5  
ICA 827.91 Rev 5 dated 31 July 2014  
MSI53 for ICA827.93 Rev 3  
ICA 827.93 Rev 3 dated 31 July 2014  
MSI53 for ICA827.92 Rev 4  
ICA827.92 Rev 4 dated 31 July 2014  
Certification Plan CP827 Rev 1 dated 18 July 2014, with Appendix A initialed.  
Changed Product Rule Decision Record signed 10 Feb 2104



J. Staal

12 January 2015



Department of Transport

# Supplemental Type Certificate

**This approval is issued to:**

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, British Columbia  
Canada V8A 0G3

**Number:** SH09-38

**Issue No.:** 4

**Approval Date:** August 07, 2009

**Issue Date:** February 10, 2015

**Responsible Office:**

Prairie and Northern

**Aircraft/Engine Type or Model:**

Airbus Helicopters AS 350 B, AS 350 B1, AS 350 B2, AS 350 B3, AS 350 BA, AS 350 D  
Airbus Helicopters AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N, AS 355 NP

**Canadian Type Certificate or Equivalent:**

H-83 (Airbus Helicopters AS 350 series)  
H-87 (Airbus Helicopters AS355 series)

**Description of Type Design Change:**

Installation of Quick Release Maintenance Step; Installation of Maintenance Peg Step; Installation of Fixed Cabin Step

**Installation/Operating Data,  
Required Equipment and Limitations:**

**Configuration A - Quick Release Maintenance Step:**

Installation of the External Attachment Provisions in accordance with STC SH08-16 (Configuration A) is required for installation of the Quick Release Maintenance Step. Installation of the Quick Release Maintenance Step to be completed in accordance with Transport Canada approved, Aero Design Ltd. Document Control List, DCL827-1, Revision 6, dated 31 July 2014, or later approved revision.

...continued



**Conditions:** This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.

F.J.B. Wright  
For Minister of Transport



Aero Design Ltd.



9888A Malaspina Road  
Powell River, BC, V8A 0G3  
Phone: 604-483-2376  
Fax: 604-483-2372  
www.aerodesign.ca

FMS827.90

## AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES



### FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of the AERO DESIGN QUICK RELEASE MAINTENANCE STEP

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

Sections I, II, III, IV, and V of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section II, Limitations, is mandatory. Section VI and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Eurocopter AS350 and AS355 Series Helicopters when fitted with the Quick Release Maintenance Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement refer to the Approved Flight Manual and other approved Flight Manual Supplements.



### Table of Contents

I	General	3
II	Limitations	3
III	Emergency ProCedures	3
IV	Normal Procedures	3
V	Performance	3
VI	Installation / removal instructions	4
VII	Weight and Balance	6

### Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	By
0	4 Aug 2009	None		
1	5 Jan 2010	1, 2, 4-8		
2	16 June 2010	1, 2, 4-7		
3	04 Dec 2012	all		
4	31 July 2014	1, 2, 6-9		

## **I GENERAL**

No change from basic Approved Flight Manual.

## **II LIMITATIONS**

No change from basic Approved Flight Manual.

## **III EMERGENCY PROCEDURES**

No change from basic Approved Flight Manual.

## **IV NORMAL PROCEDURES**

1. Pre-flight inspections:
  - a) Ensure the step is locked in position on the beams. Pull up on the forward end of the step to check.

## **V PERFORMANCE**

No change from basic Approved Flight Manual.

## VI INSTALLATION / REMOVAL INSTRUCTIONS

The attachment provisions are installed in accordance with Supplemental Type Certificate SH08-16. The maintenance step is installed in accordance with drawing 82701. The extended maintenance step is installed in accordance with drawing 82702.

There are three configurations approved for flight:

- 1) Step in the upper (normal) position or lower (stowed) position.
- 2) Step in the lower (stowed) position with a cargo basket installed.
- 3) Step removed, leaving the attachment provisions in place.

Logbook entry indicating installation or removal of step and which weight and balance amendment is in effect is required when step is installed or removed.

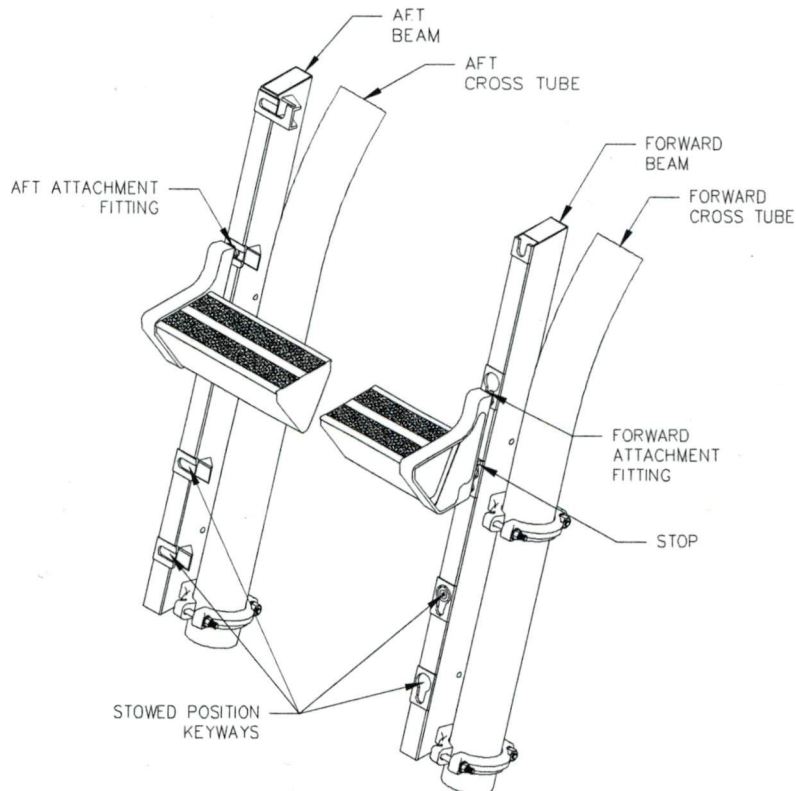


Figure 1 – Step Attachment Features

1. Installation - Refer to Figure 1.

- a) Slide step aft attachments fittings into keyways in aft beam.
- b) At forward end of step, lift step until lower attachment fitting hits stop.
- c) Push step attachment fittings into keyways and slide down until locked.

2. Removal - Refer to Figure 1.

- a) Pull knob on forward beam that is retaining step and lift step until forward attachment fittings are free of keyways.
- b) Slide step forward until free of keyways on aft beam.

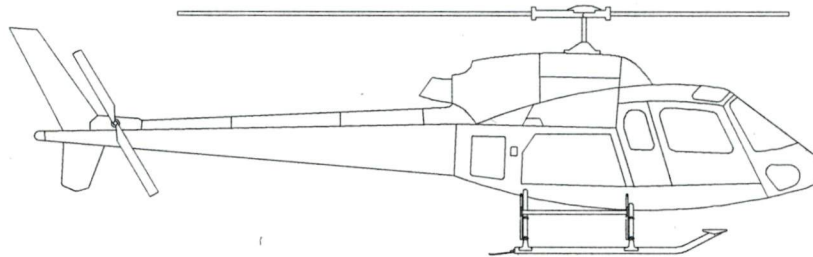


## VII WEIGHT AND BALANCE

### 1. MAINTENANCE STEP 82701.

The following weight and balance is for the quick release maintenance step installed in accordance with drawing 82701. Upper (normal) and lower (stowed) positions are provided, either position is approved for flight.

Weight and balance is for Maintenance Step only. Refer to Flight Manual Supplement FMS764.91 for weight and balance for mounting provisions.



Quick Release Maintenance Step

#### Standard Units

Provisions Configuration	Description	Standard Units				
		Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
<i>Right Hand</i>						
High	Step	4.0	136.0	544.0	37.6	150.4
	Step (stowed)	4.0	136.0	544.0	40.3	161.2
Low	Step	4.0	136.0	544.0	38.3	153.2
	Step (stowed)	4.0	136.0	544.0	41.1	164.4
Cargo Pod	Step	4.0	136.0	544.0	40.3	161.2
Compatible	Step (stowed)	4.0	136.0	544.0	43.1	172.4
<i>Left Hand</i>						
High	Step	4.0	136.0	544.0	-37.6	-150.4
	Step (stowed)	4.0	136.0	544.0	-40.3	-161.2
Low	Step	4.0	136.0	544.0	-38.3	-153.2
	Step (stowed)	4.0	136.0	544.0	-41.1	-164.4
Cargo Pod	Step	4.0	136.0	544.0	-40.3	-161.2
Compatible	Step (stowed)	4.0	136.0	544.0	-43.1	-172.4

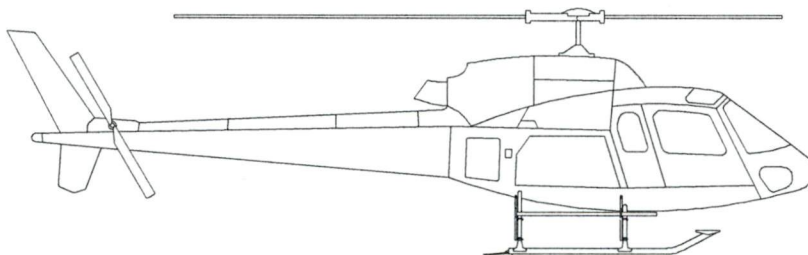
## Metric Units

Provisions Configuration	Description	Weight	Longitudinal		Lateral	
		Kg	arm mm	moment mm-Kg	arm mm	moment mm-Kg
<i>Right Hand</i>	Step	1.8	3454	6252	955	1729
	Step (stowed)	1.8	3454	6252	1024	1853
	Low	1.8	3454	6252	973	1751
Cargo Pod	Step (stowed)	1.8	3454	6252	1044	1890
	Compatible	1.8	3454	6252	1024	1853
	Step (stowed)	1.8	3454	6252	1095	1981
<i>Left Hand</i>						
High	Step	1.8	3454	6252	-955	-1729
	Step (stowed)	1.8	3454	6252	-1024	-1853
	Low	1.8	3454	6252	-973	-1751
Cargo Pod	Step (stowed)	1.8	3454	6252	-1044	-1890
	Compatible	1.8	3454	6252	-1024	-1853
	Step (stowed)	1.8	3454	6252	-1095	-1981

## 2. EXTENDED MAINTENANCE STEP 82702.

The following weight and balance is for the extended quick release maintenance step installed in accordance with drawing 82702. Upper (normal) and lower (stowed) positions are provided, either position is approved for flight.

Weight and balance is for Maintenance Step only. Refer to Flight Manual Supplement FMS764.91 for weight and balance for mounting provisions.



Extended Quick Release Maintenance Step

### Standard Units

Provisions Configuration	Description	Standard Units				
		Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
<i>Right Hand</i>						
High	Step	9.0	126.5	1138.5	37.2	334.8
	Step (stowed)	9.0	126.5	1138.5	39.9	359.1
Low	Step	9.0	126.5	1138.5	37.9	341.1
	Step (stowed)	9.0	126.5	1138.5	40.7	366.3
Cargo Pod	Step	9.0	126.5	1138.5	39.9	359.1
Compatible	Step (stowed)	9.0	126.5	1138.5	42.7	384.3
<i>Left Hand</i>						
High	Step	9.0	126.5	1138.5	-37.2	-334.8
	Step (stowed)	9.0	126.5	1138.5	-39.9	-359.1
Low	Step	9.0	126.5	1138.5	-37.9	-341.1
	Step (stowed)	9.0	126.5	1138.5	-40.7	-366.3
Cargo Pod	Step	9.0	126.5	1138.5	-39.9	-359.1
Compatible	Step (stowed)	9.0	126.5	1138.5	-42.7	-384.3

**Metric Units**

Provisions Configuration	Description	Moment Units				
		Weight	Longitudinal		Lateral	
		Kg	arm mm	moment mm-Kg	arm mm	moment mm-Kg
<i>Right Hand</i>						
High	Step	4.1	3213	13085	945	3848
	Step (stowed)	4.1	3213	13085	1013	4127
Low	Step	4.1	3213	13085	963	3920
	Step (stowed)	4.1	3213	13085	1034	4210
Cargo Pod	Step	4.1	3213	13085	1013	4127
Compatible	Step (stowed)	4.1	3213	13085	1085	4417
<i>Left Hand</i>						
High	Step	4.1	3213	13085	-945	-3848
	Step (stowed)	4.1	3213	13085	-1013	-4127
Low	Step	4.1	3213	13085	-963	-3920
	Step (stowed)	4.1	3213	13085	-1034	-4210
Cargo Pod	Step	4.1	3213	13085	-1013	-4127
Compatible	Step (stowed)	4.1	3213	13085	-1085	-4417





# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
82701	Quick Release Maintenance Step Installation	2
82702	Extended Quick Release Maintenance Step Installation	2
FMS827.90	Flight Manual Supplement	4
ICA827.91	Instructions for Continued Airworthiness	5
<b>FABRICATION DOCUMENTS</b>		
DCL827-11	Document Control List for Quick Release Maintenance Step Fabrication	4

<b>APPROVAL:</b>  Transport Canada  Transports Canada <b>AIRCRAFT CERTIFICATION DIVISION</b> <b>APPROVED</b> By <u><i>[Signature]</i></u> Appr'l No. <u>SH09038</u> Appr'l Date <u>2009-08-07</u> Issue No. <u>4</u> Issue Date <u>2015-02-10</u> <small>YY-MM-DD</small>		ORIGINAL DATE: 31 October 2008 REVISION DATE: 31 July 2014	 <b>Aero Design Ltd.</b> 9888A Malaspina Road Powell River, BC, Canada, V8A 0G3 Tel: 604.483.2376 www.aerodesign.ca
SHEET 1 OF 1		<b>Airbus Helicopters (Eurocopter)</b> <b>AS350 &amp; AS355 Series</b> <b>Quick Release Maintenance Steps</b> <b>Installation</b>	
<b>DCL827-1</b>		Rev. <b>6</b>	




# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>FABRICATION DOCUMENTS</b>		
82716	Step Assembly	1
82722	Step Bracket Fabrication	1
82711	Extended Step Assembly	1
82720	Step Bracket Fabrication	2
<b>ENGINEERING DOCUMENTS</b>		
ER827.02	Engineering Report	0

<b>APPROVAL:</b>  Transport Canada    Transports Canada <b>AIRCRAFT CERTIFICATION DIVISION</b> <b>APPROVED</b> By <u><i>[Signature]</i></u> Appr'l No. <u>5409-38</u> Appr'l Date <u>2009-08-07</u> Issue No. <u>4</u> Issue Date <u>2015-02-10</u> <small>YY-MM-DD</small>		ORIGINAL DATE: 31 October 2008 REVISION DATE: 31 July 2014	 <b>Aero Design Ltd.</b> 9888A Malaspina Road Powell River, BC, Canada, V8A 0G3 Tel: 604.483.2376 www.aerodesign.ca
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<b>DCL827-11</b>		Rev. <b>4</b>	

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
82707	Maintenance Peg Step Installation	2
ICA827.93	Instructions for Continued Airworthiness	3
<b>FABRICATION DOCUMENTS</b>		
82740	Peg Step Fabrication	2
<b>ENGINEERING DOCUMENTS</b>		
ER827.01	Engineering Report	2

<b>APPROVAL:</b>  Transport Canada  Transports Canada <b>AIRCRAFT CERTIFICATION DIVISION</b> <b>APPROVED</b> By <u><i>[Signature]</i></u> Appr'l No. <u>5409-38</u> Appr'l Date <u>2009-08-07</u> Issue No. <u>4</u> Issue Date <u>2015-02-10</u> <small>YY-MM-DD</small>		ORIGINAL DATE: 31 October 2008 REVISION DATE: 31 July 2014	 <b>Aero Design Ltd.</b> 9888A Malaspina Road Powell River, BC, Canada, V8A 0G3 Tel: 604.483.2376 www.aerodesign.ca
SHEET 1 OF 1		<b>Airbus Helicopters (Eurocopter)</b> <b>AS350 &amp; AS355 Series</b> <b>Maintenance Peg Step</b> <b>Installation</b>	
<b>DCL827-2</b>		Rev. <b>4</b>	

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
82705	Long Cabin Step Installation	2
82706	Short Cabin Step Installation	2
82709	Full Length Cabin Step Installation	1
82750	Short Commuter Cabin Step Installation	1
82751	Long Commuter Cabin Step Installation	1
82752	Full Length Commuter Cabin Step Installation	1
82770	Short Cabin Step Installation – DART Conversion	1
82771	Long Cabin Step Installation – DART Conversion	1
82772	Short Cabin Step Installation – DART Conversion (Old Profile)	1
82773	Long Cabin Step Installation – DART Conversion (Old Profile)	1
ICA827.92	Instructions for Continued Airworthiness	4
<b>FABRICATION DOCUMENTS</b>		
DCL827-13	Document Control List for Fixed Cabin Steps Fabrication	6

<b>APPROVAL:</b> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <div style="display: inline-block; text-align: center;"> <b>Transport Canada</b>  <small>Transports Canada</small> </div> </div> <div style="margin-top: 5px;"> <b>AIRCRAFT CERTIFICATION DIVISION</b>  <div style="text-align: center; font-weight: bold; font-size: 1.2em;">APPROVED</div> By <u><i>[Signature]</i></u>  App'l No. <u>5409-38</u>  App'l Date <u>2009-08-07</u>  Issue No. <u>4</u>  Issue Date <u>2015-02-10</u>  <small>YY - MM - DD</small> </div>		ORIGINAL DATE: 31 October 2008 REVISION DATE: 31 July 2014	<div style="text-align: center;">   <b>Aero Design Ltd.</b>  <small>9888A Malaspina Road Powell River, BC, Canada, V8A 0G3 Tel: 604.483.2376 www.aerodesign.ca</small> </div>
SHEET 1 OF 1		<b>Airbus Helicopters (Eurocopter)</b> <b>AS350 &amp; AS355 Series</b> <b>Fixed Cabin Steps</b> <b>Installation</b>	
<div style="font-size: 2em; font-weight: bold;">DCL827-3</div>		Rev. <div style="font-size: 2em; font-weight: bold;">7</div>	



# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>FABRICATION DOCUMENTS</b>		
82715	Short Cabin Step Assembly	2
82717	Long Cabin Step Assembly	1
82718	Commuter Cabin Step Assembly	2
82719	Extra Short Cabin Step Assembly	0
82723	Bracket Fabrication	2
82733	Short Cabin Step Parts Fabrication	2
82734	Cabin Step Parts Fabrication	1
82736	Commuter Cabin Step Parts Fabrication	1
82760	Commuter Step Assembly	1
82765	Bracket Fabrication	2
82780	Bracket (DART Long)	1
82781	Cap (DART Long)	1
82782	Bracket (DART Short)	1
82783	Cap (DART Short)	1
82784	Cap (Old Profile, DART Short)	1
82785	Bracket (Old Profile, DART Long)	1
82786	Cap (Old Profile, DART Long)	1
<b>ENGINEERING DOCUMENTS</b>		
ER827.02	Engineering Report	0
ER827.03	Engineering Report Flight Test Report – Transport Canada	1

<b>APPROVAL:</b> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <div style="display: inline-block; text-align: center;"> Transport Canada </div> <div style="display: inline-block; text-align: center;"> Transports Canada </div> </div> <div style="margin-top: 5px;"> <b>AIRCRAFT CERTIFICATION DIVISION</b>  <b>APPROVED</b>  By <u>[Signature]</u>  Appr'l No. <u>51409238</u>  Appr'l Date <u>2009-08-07</u>  Issue No. <u>4</u>  Issue Date <u>2015-02-10</u>  <small>YY-MM-DD</small> </div>		ORIGINAL DATE: 31 October 2008 REVISION DATE: 31 July 2014	<div style="display: inline-block;"> <b>Aero Design Ltd.</b>  9888A Malaspina Road  Powell River, BC, Canada, V8A 0G3  Tel: 604.483.2376 <a href="http://www.aerodesign.ca">www.aerodesign.ca</a> </div>
SHEET 1 OF 1		<b>Airbus Helicopters (Eurocopter)</b> <b>AS350 &amp; AS355 Series</b> <b>Fixed Cabin Steps</b> <b>Fabrication</b>	
<b>DCL827-13</b>		Rev.  <b>6</b>	

**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

**APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527**

**BLOCK 1**

<b>Name of the applicant for the design change approval:</b>	<b>Aero Design Ltd.</b>
<b>Description of the design change:</b>	<b>Installation of Quick Release Maintenance Step on Airbus Helicopters (Eurocopter) AS350 &amp; AS355 Series</b>
<b>Certification Basis of design change and revision date:</b>	<b>FAR 27, Amendment 27-20</b>
<b>CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:</b>	<b>Section 0-3 of Supplemental ICA (ICA 827.91)</b>
<b>CAR Standard 513.05 (1) (g) (iv): Installation Instructions:</b>	<b>Installation Drawing 82701, 82702</b>

**BLOCK 2**

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.91, Rev. 5)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5



### MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A

### MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 and 25-2
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-3
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-4
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A




## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### BLOCK 3

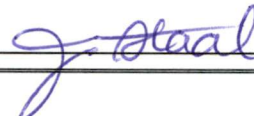
Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

<b>A527.4 AWL - Separate Section 1</b> The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Chapter 4
---	---	---------------------------------

### BLOCK 4 – Applicant Statement of Compliance

<b>The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.</b>	
Applicants Signature: <u></u>	Date: <u>01 August 2014</u>
Applicants Name: <u>Jeff Clarke, Vice President</u>	

### BLOCK 5 – Minister's Statement of Acceptability

<b>The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.</b>			
Reviewer's Name: <u>Jack Staal</u>	Phone # <u>780-495-5227</u>	Email: <u>jack.staal@tc.gc.ca</u>	Mail Routing Symbol: <u>RAX1</u>
Signature: <u></u>	Date: <u>10 February 2015</u> <div style="text-align: right;">Rev 5</div>	NAPA Number: <u>C-14-0821</u>	

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 827.91

### AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES QUICK RELEASE MAINTENANCE STEPS

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

#### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Maintenance Step installed in accordance with Aero Design Ltd. Document Control List DCL827-1, Revision 6, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 5  
Date: 31 July 2014

Aero Design Ltd.



9888A Malaspina Road, Powell River, BC, V8A 0G3  
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**RECORD OF REVISIONS**

Revision Number	Issue Date	Date Inserted	By
0			Original Issue
1	23 July 2009		
2	05 January 2010		
3	28 June 2010		
4	04 Dec 2012		
5	31 July 2014		

**LIST OF EFFECTIVE PAGES**

List of Revisions	Revision 0 (Original Issue)	20 October, 2008
	Revision 1	23 July, 2009
	Revision 2	05 January 2010
	Revision 3	28 June 2010
	Revision 4	04 December 2012
	Revision 5	31 July 2014

**List of Effective Pages**

<u>Description</u>	<u>Page</u>	<u>Revision</u>	<u>Description</u>	<u>Page</u>	<u>Revision</u>
Cover	1	5	25-00-00	11	5
Revision Record	2	5		12	5
Table of Contents	3	0		13	5
00-00-00	4	5		14	5
	5	4			
04-00-00	6	5			
05-00-00	7	5			
	8	5			
	9	5			
25-00-00	10	5			

**NOTE**

Revised text is indicated by a black vertical line. A revised page with only a vertical line next to the page number indicates that text has shifted or that non-technical correction(s) were made on that page. Insert latest revision pages; dispose of superseded pages.

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Maintenance Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Maintenance Step. Requests for a copy may be made in writing to:

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

#### *Quick Release Cargo Basket Installation:*

The Quick Release Maintenance Step must be installed in the lower (stowed) position prior to installation of the Aero Design Ltd. Cargo Baskets in accordance with STC SH08-16.

The Quick Release Maintenance Step cannot be stowed with the extra large Aero Design Ltd. Cargo Basket, configuration 940, installed.

## 0-5 GENERAL DESCRIPTION

The Quick Release Maintenance Step installation consists of a step assembly which is attached to quick release mounting provisions installed on the helicopter. These mounting provisions are capable of mounting various equipment including cargo baskets.

The step itself consists of an aluminum extrusion attached to brackets on the ends with fittings that lock into the quick release mechanism.

Two positions are provided: upper for use in maintenance activities and lower for stowing under a cargo basket.

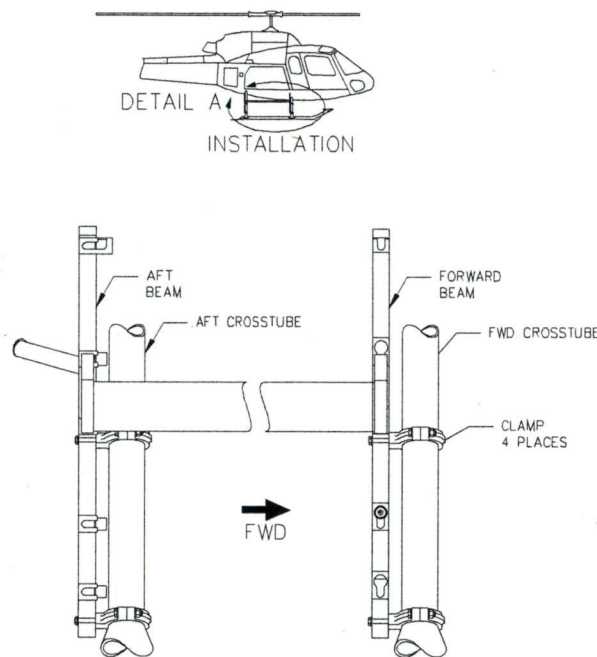


Figure 0-1 – AS350 Quick Release Maintenance Step Installation

The Extended Quick Release Maintenance Step is used to fill the gap between the forward cross tube and the short fixed step when the cargo basket is removed. The installation is identical to the standard Quick Release Maintenance Step.

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

### *EASA*

The Airworthiness Limitations section is approved and variations must also be approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Maintenance Step.

## CHAPTER 5 – INSPECTION REQUIREMENTS

Refer to ICA764.90 for inspection requirements for the Quick Release Mounting Provisions not included below.

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Maintenance Step.

#### *Daily Inspection*

##### 1. Inspection Area: Step

- a) Inspect the step attachment to the beams for condition and security. Ensure quick release mechanism is completely extended, flush with the outboard surface of the beam.

#### *100 Hour or Annual Inspection*

Refer to ICA764.90 for inspection requirements for the Quick Release Mounting Provisions.

##### 1. Inspection Area: Step

- a) Visually inspect welds attaching end brackets to step extrusion for cracks, corrosion or other damage.
- b) Visually inspect step for damage.
- c) Visually inspect lugs attaching the step to the beams for security and damage.

#### *Special Inspections*

1. Following a hard landing inspect the Quick Release Maintenance Step installation in accordance with the 100 hour or annual inspection listed above.
2. Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601



## 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

Refer to ICA764.90 for the Quick Release Mounting Provisions for further limits and repair instructions.

If damage is found in the inspections above, repair in accordance with the instructions below.

### 1. Step Assembly

Part	Type of Damage	Max. Allowable	Repair
Step End Bracket	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Bent Lugs	None	N/A
Centre Step Section	Corrosion	2" x 2" x 0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 1" long	Blend up to 0.010" deep with scotchbrite.
	Cracks / Dents	None	N/A
	Permanent Deflection of Step	0.25" max at middle of step	None

### 2. Steel Beams

Part	Type of Damage	Max. Allowable	Repair
Steel Beam	Corrosion	0.015" deep	Blend up to 0.015" deep with scotchbrite.
	Scratches / Nicks	0.015" deep x 0.125" wide	Blend up to 0.015" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Elongation of Keyway	See figure 5-1 and 5-2	None
	Widening of slots	15/32" (0.469) diameter maximum (check with a 15/32" drill)	None

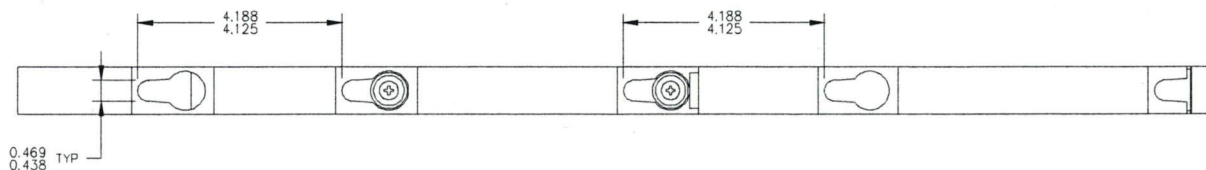


Figure 5-1 – Critical Keyway Dimensions (Forward Beam)

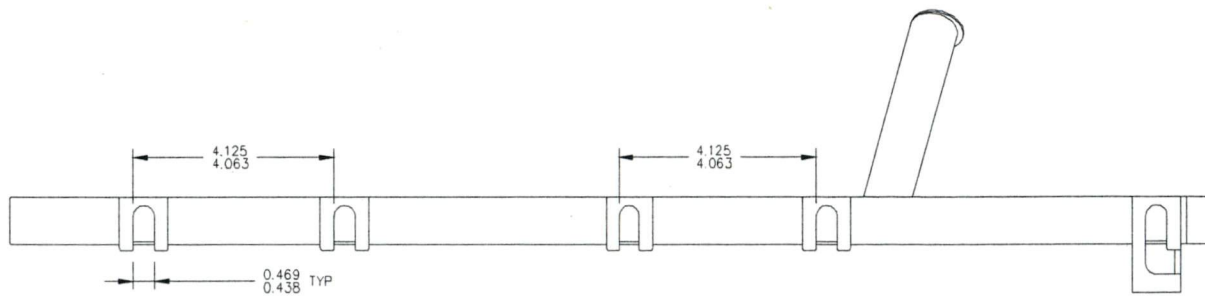


Figure 5-2 – Critical Keyway Dimensions (Aft Beam)

### 3. Step Welds

Cracks up to 0.25" long may be repaired as follows:

- Clean area of paint.
- Grind away weld in area of crack.
- T.I.G. weld per MIL-STD-2219 Class "C" using ER4043 filler rod. Do not grind flush.
- Touch up paint as noted in section 5-3.

### 4. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

1/4-28 insert: 3591-4CN375

3/8-24 insert: 3591-6CN563

## 5-3 PROTECTIVE TREATMENT INFORMATION

### 1. Quick Release Maintenance Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint. The tread area has two 1" strips of 3M Safety-Walk grip tape. If the grip tape is damaged, replace with equivalent grip tape, or apply Randolph X1567 Wingwalk grip paint or equivalent to the top surface.

### 2. Extended Quick Release Maintenance Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint. The tread area is coated with Randolph X1567 Wingwalk grip paint. If the grip paint is damaged, apply Randolph X1567 Wingwalk grip paint or equivalent to the top surface.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

The Quick Release Maintenance Step Installation may be applied to the right and/or left side of the helicopter. Refer to ICA764.90 for the Quick Release Mounting Provisions for installation, inspection, repair and removal instructions for the mounting provisions not included below.

### 25-1 STEP INSTALLATION

Refer to Figure 25-1.

1. Set aft attachment fittings into keyways in aft beam.
2. At forward beam, lift step until lower attachment fitting hits stop.
3. Push forward attachment fittings into keyways and slide step down until locked.

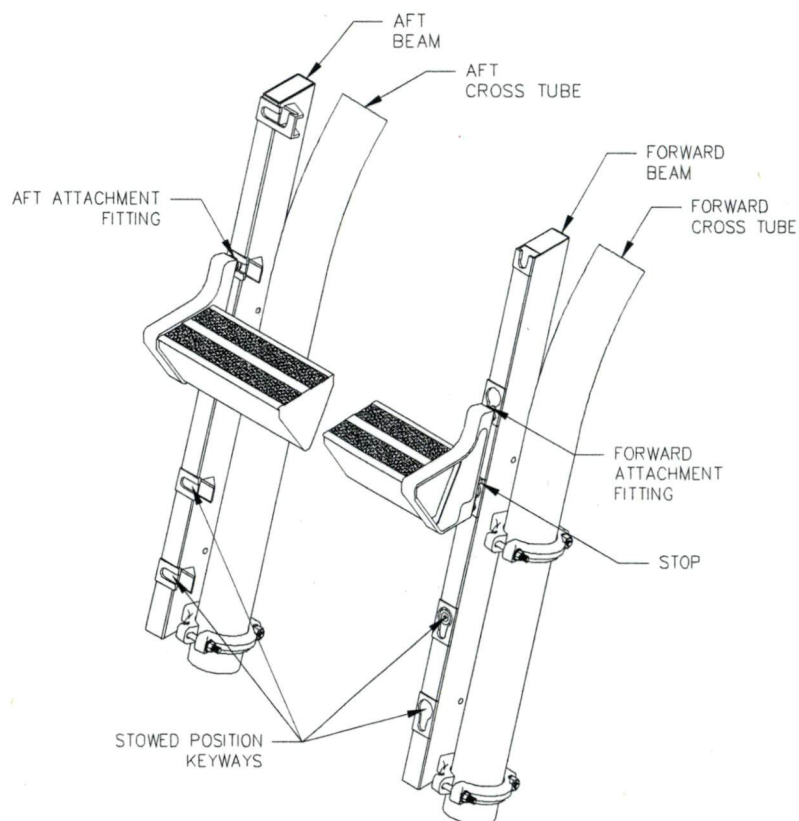


Figure 25-1 – Step Attachment

### 25-2 STEP REMOVAL

Refer to Figure 25-1.

1. Pull knob at bottom end of forward beam and lift step until forward attachment fittings are free of keyways.
2. Slide step forward until free of keyways on aft beam.



### 25-3 WEIGHT AND BALANCE

Different weight and balance configurations are required for the pilot. The first is the installation of Mounting Provisions only. The second is Provisions and Step in the upper position. The third is Provisions and Step in the lower (stowed) position.

Standard Quick Release Maintenance Step

Standard						
P/N *	Description	Weight	Longitudinal		Lateral **	
			arm	moment	arm	moment
	<i>Low Provisions Configuration</i>	lb	in	in-lb	in	in-lb
78602-01-XX	Low Provisions Installation	6.4	135.6	867.5	37.2	238.0
82716-01	Maintenance Step	4.0	136.0	544.0	38.3	153.2
<b>82701-01</b>	<b>Step Installation</b>	<b>10.4</b>	<b>135.7</b>	<b>1411.5</b>	<b>37.6</b>	<b>391.2</b>
78602-01-XX	Low Provisions Installation	6.4	135.6	867.5	37.2	238.0
82716-01	Maintenance Step (stowed)	4.0	136.0	544.0	41.1	164.4
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>10.4</b>	<b>135.6</b>	<b>1411.5</b>	<b>38.7</b>	<b>402.4</b>
<i>High Provisions Configuration</i>						
78602-02-XX	High Provisions Installation	6.4	135.6	867.5	36.5	233.8
82716-01	Quick Release Maintenance Step	4.0	136.0	544.0	37.6	150.4
<b>82701-01</b>	<b>Step Installation</b>	<b>10.4</b>	<b>135.6</b>	<b>1411.5</b>	<b>36.9</b>	<b>384.2</b>
78602-02-XX	High Provisions Installation	6.4	135.6	867.5	36.5	233.8
82716-01	Quick Release Maintenance Step	4.0	136.0	544.0	40.3	161.2
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>10.4</b>	<b>135.6</b>	<b>1411.5</b>	<b>38.0</b>	<b>395.0</b>
<i>Cargo Pod Compatible Configuration</i>						
78603-01-XX	Cargo Pod Compatible Provisions Installation	6.8	135.4	921.0	38.8	263.6
82716-01	Quick Release Maintenance Step	4.0	136.0	544.0	40.3	161.2
<b>82701-01</b>	<b>Step Installation</b>	<b>10.8</b>	<b>135.6</b>	<b>1465.0</b>	<b>39.3</b>	<b>424.8</b>
78603-01-XX	Cargo Pod Compatible Provisions Installation	6.8	135.4	921.0	38.8	263.6
82716-01	Quick Release Maintenance Step	4.0	136.0	544.0	43.1	172.4
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>10.8</b>	<b>135.6</b>	<b>1465.0</b>	<b>40.4</b>	<b>436.0</b>

\* -XX indicates side. Right side is -01, Left side is -02.

\*\*Lateral arm is negative for left side installation.

Table 25-1 – Quick Release Maintenance Step Weight and Balance



## Standard Quick Release Maintenance Step

P/N *	Description	Metric				
		Weight	Longitudinal		Lateral **	
	<i>Low Provisions Configuration</i>	kg	arm mm	moment mm-kg	arm mm	moment mm-kg
78602-01-XX	Low Provisions Installation	2.9	3443	9971	945	2735
82716-01	Maintenance Step	1.8	3454	6252	973	1751
<b>82701-01</b>	<b>Step Installation</b>	<b>4.7</b>	<b>3447</b>	<b>16223</b>	<b>955</b>	<b>4496</b>
78602-01-XX	Low Provisions Installation	2.9	3443	9971	945	2735
82716-01	Maintenance Step (stowed)	1.8	3454	6252	1044	1890
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>4.7</b>	<b>3447</b>	<b>16223</b>	<b>983</b>	<b>4625</b>
<i>High Provisions Configuration</i>						
78602-02-XX	High Provisions Installation	2.9	3443	9971	928	2688
82716-01	Quick Release Maintenance Step	1.8	3454	6252	955	1729
<b>82701-01</b>	<b>Step Installation</b>	<b>4.7</b>	<b>3447</b>	<b>16223</b>	<b>938</b>	<b>4416</b>
78602-02-XX	High Provisions Installation	2.9	3443	9971	928	2688
82716-01	Quick Release Maintenance Step	1.8	3454	6252	1024	1853
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>4.7</b>	<b>3447</b>	<b>16223</b>	<b>965</b>	<b>4540</b>
<i>Cargo Pod Compatible Configuration</i>						
78603-01-XX	Cargo Pod Compatible Provisions Installation	3.1	3440	10585	985	3030
82716-01	Quick Release Maintenance Step	1.8	3454	6252	1024	1853
<b>82701-01</b>	<b>Step Installation</b>	<b>4.9</b>	<b>3445</b>	<b>16837</b>	<b>999</b>	<b>4882</b>
78603-01-XX	Cargo Pod Compatible Provisions Installation	3.1	3440	10585	985	3030
82716-01	Quick Release Maintenance Step	1.8	3454	6252	1095	1981
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>4.9</b>	<b>3445</b>	<b>16837</b>	<b>1025</b>	<b>5011</b>

\* -XX indicates side. Right side is -01, Left side is -02.

\*\*Lateral arm is negative for left side installation.

Table 25-2 – Quick Release Maintenance Step Weight and Balance

## Extended Quick Release Maintenance Step

## Standard

P/N *	Description	Weight	Longitudinal		Lateral **	
		lb	arm in	moment in-lb	arm in	moment in-lb
78602-01-XX	Low Provisions Installation	6.4	135.6	867.5	37.2	238.0
82711-01-XX	Maintenance Step	9.0	126.5	1138.5	37.9	341.1
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	<b>15.4</b>	<b>130.3</b>	<b>2006.0</b>	<b>37.6</b>	<b>579.1</b>
78602-01-XX	Low Provisions Installation	6.4	135.6	867.5	37.2	238.0
82711-01-XX	Maintenance Step (stowed)	9.0	126.5	1138.5	40.7	366.3
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	<b>15.4</b>	<b>130.3</b>	<b>2006.0</b>	<b>39.2</b>	<b>604.3</b>
<i>High Provisions Configuration</i>						
78602-02-XX	High Provisions Installation	6.4	135.6	867.5	36.5	233.8
82711-01-XX	Quick Release Maintenance Step	9.0	126.5	1138.5	37.2	334.8
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	<b>15.4</b>	<b>130.3</b>	<b>2006.0</b>	<b>36.9</b>	<b>568.6</b>
78602-02-XX	High Provisions Installation	6.4	135.6	867.5	36.5	233.8
82711-01-XX	Quick Release Maintenance Step	9.0	126.5	1138.5	39.9	359.1
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	<b>15.4</b>	<b>130.3</b>	<b>2006.0</b>	<b>38.5</b>	<b>592.9</b>
<i>Cargo Pod Compatible Configuration</i>						
78603-01-XX	Cargo Pod Compatible Provisions Installation	6.8	135.4	921.0	38.8	263.6
82711-01-XX	Quick Release Maintenance Step	9.0	126.5	1138.5	39.9	359.1
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	<b>15.8</b>	<b>130.3</b>	<b>2059.5</b>	<b>39.4</b>	<b>622.7</b>
78603-01-XX	Cargo Pod Compatible Provisions Installation	6.8	135.4	921.0	38.8	263.6
82711-01-XX	Quick Release Maintenance Step	9.0	126.5	1138.5	42.7	384.3
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	<b>15.8</b>	<b>130.3</b>	<b>2059.5</b>	<b>41.0</b>	<b>647.9</b>

\* -XX indicates side. Right side is -01, Left side is -02.

\*\*Lateral arm is negative for left side installation.

Table 25-3 – Extended Quick Release Maintenance Step Weight and Balance

## Extended Quick Release Maintenance Step

P/N *	Description	Metric				
		Weight	Longitudinal		Lateral **	
	<i>Low Provisions Configuration</i>	kg	arm mm	moment mm-kg	arm mm	moment mm-kg
78602-01-XX	Low Provisions Installation	2.9	3444	9974	945	2736
82711-01-XX	Maintenance Step	4.1	3213	13085	963	3920
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	7.0	3309	23059	955	6657
78602-01-XX	Low Provisions Installation	2.9	3444	9974	945	2736
82711-01-XX	Maintenance Step (stowed)	4.1	3213	13085	1034	4210
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	7.0	3309	23059	997	6946
<i>High Provisions Configuration</i>						
78602-02-XX	High Provisions Installation	2.9	3444	9974	927	2685
82711-01-XX	Quick Release Maintenance Step	4.1	3213	13085	945	3848
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	7.0	3309	23059	937	6533
78602-02-XX	High Provisions Installation	2.9	3444	9974	927	2685
82711-01-XX	Quick Release Maintenance Step	4.1	3213	13085	1013	4127
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	7.0	3309	23059	978	6812
<i>Cargo Pod Compatible Configuration</i>						
78603-01-XX	Cargo Pod Compatible Provisions Installation	3.1	3439	10582	986	3032
82711-01-XX	Quick Release Maintenance Step	4.1	3213	13085	1013	4127
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	7.1	3310	23667	1001	7160
78603-01-XX	Cargo Pod Compatible Provisions Installation	3.1	3439	10582	986	3032
82711-01-XX	Quick Release Maintenance Step	4.1	3213	13085	1085	4417
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	7.1	3310	23667	1042	7449

\* -XX indicates side. Right side is -01, Left side is -02.

\*\*Lateral arm is negative for left side installation.

Table 25-4 – Extended Quick Release Maintenance Step Weight and Balance

## 25-4 STRUCTURAL FASTENER DATA

Refer to Standard Practices Manual for torque values not listed in this ICA.



# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

## APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

### BLOCK 1

Name of the applicant for the design change approval:	Aero Design Ltd.
Description of the design change:	Installation of Maintenance Peg Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
Certification Basis of design change and revision date:	FAR 27, Amendment 27-20
CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:	Section 0-3 of Supplemental ICA (ICA 827.93)
CAR Standard 513.05 (1) (g) (iv): Installation Instructions:	Installation Drawing 82707

### BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.93, Rev. 3)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5



### MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A

**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

<b>Regulatory Standard Reference Column 1</b>	<b>Design Approval Holder (DAH) ICA Reference Column 2</b>	<b>Applicant Means of Compliance Supplemental ICA Requirements Column 3</b>
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 and 25-2
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-3
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-4
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A



### MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

#### BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

<b>A527.4 AWL - Separate Section 1</b> The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Section 4
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#### BLOCK 4 – Applicant Statement of Compliance

<b>The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.</b>	
Applicants Signature: <u>Jeff Clarke</u>	Date: <u>01 August 2014</u>
Applicants Name: <u>Jeff Clarke, Vice President</u>	

#### BLOCK 5 – Minister's Statement of Acceptability

<b>The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.</b>			
Reviewer's Name: <u>Jack Staal</u>	Phone # <u>780-485-5227</u>	Email: <u>jack.staal@tc.gc.ca</u>	Mail Routing Symbol: <u>RAXI</u>
Signature: <u>J. Staal</u>	Date: <u>10 Feb 2015</u>	NAPA Number: <u>C-14-0821</u>	

Rev 3.

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 827.93

### AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES

### MAINTENANCE PEG STEP

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

#### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Maintenance Peg Step installed in accordance with Aero Design Ltd. Document Control List DCL827-2, Revision 4, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 3  
Date: 31 July 2014

Aero Design Ltd.



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**RECORD OF REVISIONS**

Revision Number	Issue Date	Date Inserted	By
0	4 August 2009		Original Issue
1	17 December 2009		
2	28 June 2010		
3	31 July 2014		

**LIST OF EFFECTIVE PAGES**

List of Revisions	Revision 0 (Original Issue)	4 August 2009
	Revision 1	17 December 2009
	Revision 2	28 June 2010
	Revision 3	31 July 2014

## List of Effective Pages

<u>Description</u>	<u>Page</u>	<u>Revision</u>	<u>Description</u>	<u>Page</u>	<u>Revision</u>
Cover	1	3			
Revision Record	2	3			
Table of Contents	3	2			
00-00-00	4	3			
	5	3			
04-00-00	6	3			
05-00-00	7	2			
	8	3			
25-00-00	9	3			
	10	3			

**NOTE**

Revised text is indicated by a black vertical line. A revised page with only a vertical line next to the page number indicates that text has shifted or that non-technical correction(s) were made on that page. Insert latest revision pages; dispose of superseded pages.

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Maintenance Peg Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Maintenance Peg Step. Requests for a copy may be made in writing to:

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

The Maintenance Peg Step Installation (82707-01) is not compatible with Quick Release Mounting Provisions in accordance with STC SH08-16. A peg step is included as an integral part of the Quick Release Mounting Provisions. The Maintenance Peg Step may be installed on the opposite side to the Attachment Provisions.

**0-5 GENERAL DESCRIPTION**

The Maintenance Peg Step Installation (82707-01) consists of a fitting attached to the aft cross tube with a tube that sticks out inboard and aft from the cross tube. The Maintenance Peg Step is used to aid access to the helicopter for maintenance activities.

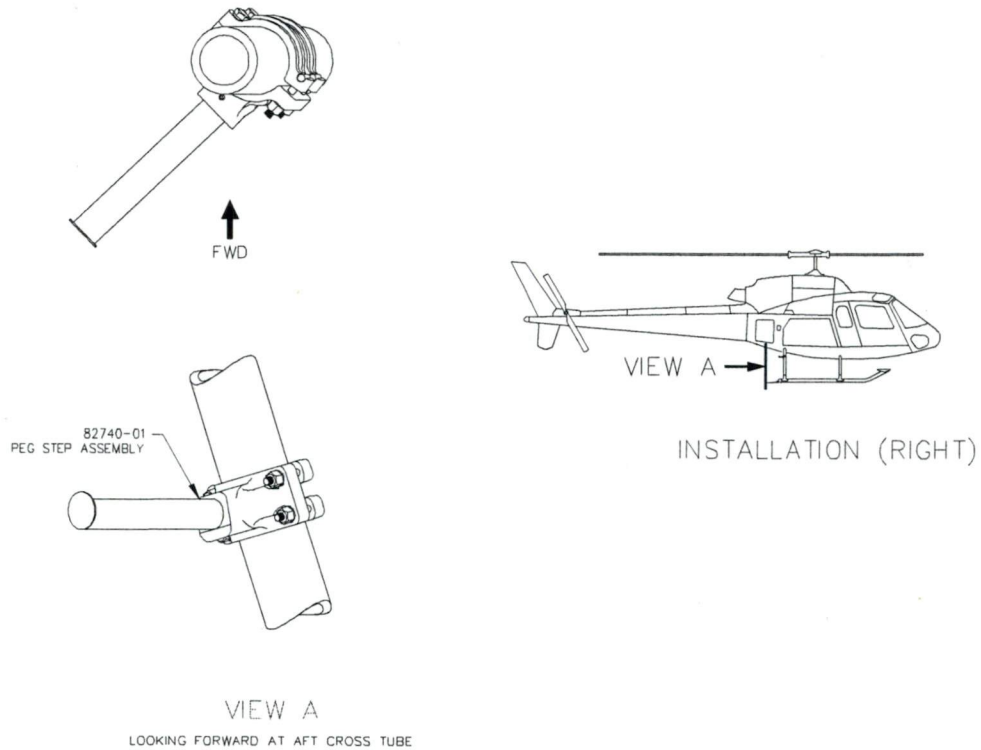


Figure 0-1 – Maintenance Peg Step Installation



## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

### *EASA*

The Airworthiness Limitations section is approved and variations must also be approved.

No additional airworthiness limitations have been imposed due the installation of the Maintenance Peg Step.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Maintenance Peg Step.

#### *Daily Inspection*

1. Inspection Area: Step
  - a) Inspect the Step for condition and security.

#### *100 Hour or Annual Inspection*

1. Inspection Area: Step
  - a) Visually inspect all mounting hardware for condition and security.
  - b) Visually inspect step for cracks, corrosion or other damage.
  - c) Visually inspect step tube attachment to socket fitting. Step tube must not be loose in socket.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

1. Maintenance Peg Step (82707 Configuration)

Part	Type of Damage	Max. Allowable	Repair
Step Tube	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks	None	N/A
	Permanent bend	*Note	None
Fitting	Corrosion	0.030" deep	Blend up to 0.030" deep with scotchbrite.
	Scratches / Nicks	0.060" deep x 0.5" long	Blend up to 0.060" deep with scotchbrite.
	Cracks	None	N/A
	Elongation of socket hole	None	N/A

\*Note: Minor bending of the step tube that does not cause the tube to become loose in the socket is acceptable.

### 5-3 PROTECTIVE TREATMENT INFORMATION

#### 1. Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint.

The step tube has a strip of 1" wide 3M Safety-Walk grip tape applied to the top surface. If the grip tape is damaged replace with equivalent grip tape, or apply Randolph X1567 Wingwalk grip paint or equivalent.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

The Maintenance Peg Step Installation may be applied to the right and/or left side of the helicopter.

### 25-1 STEP INSTALLATION

Configuration: 82701-01 (right or left)

1. Locate Step Assembly 82740-01 on aft cross tube. Fasten one side with two (2) AN4-14A Bolts, NAS1149F0463P Washers (2), and MS21044N4 Nuts; fasten opposite side with two (2) FT4F-175H T-Bolts, NAS1149F0463P Washers (1) and MS21044N4 Nuts. Rotate step until horizontal, approximately 45 degrees to the cross tube. Torque nuts to 50-70 in-lbs (5.6-7.9 N-m).

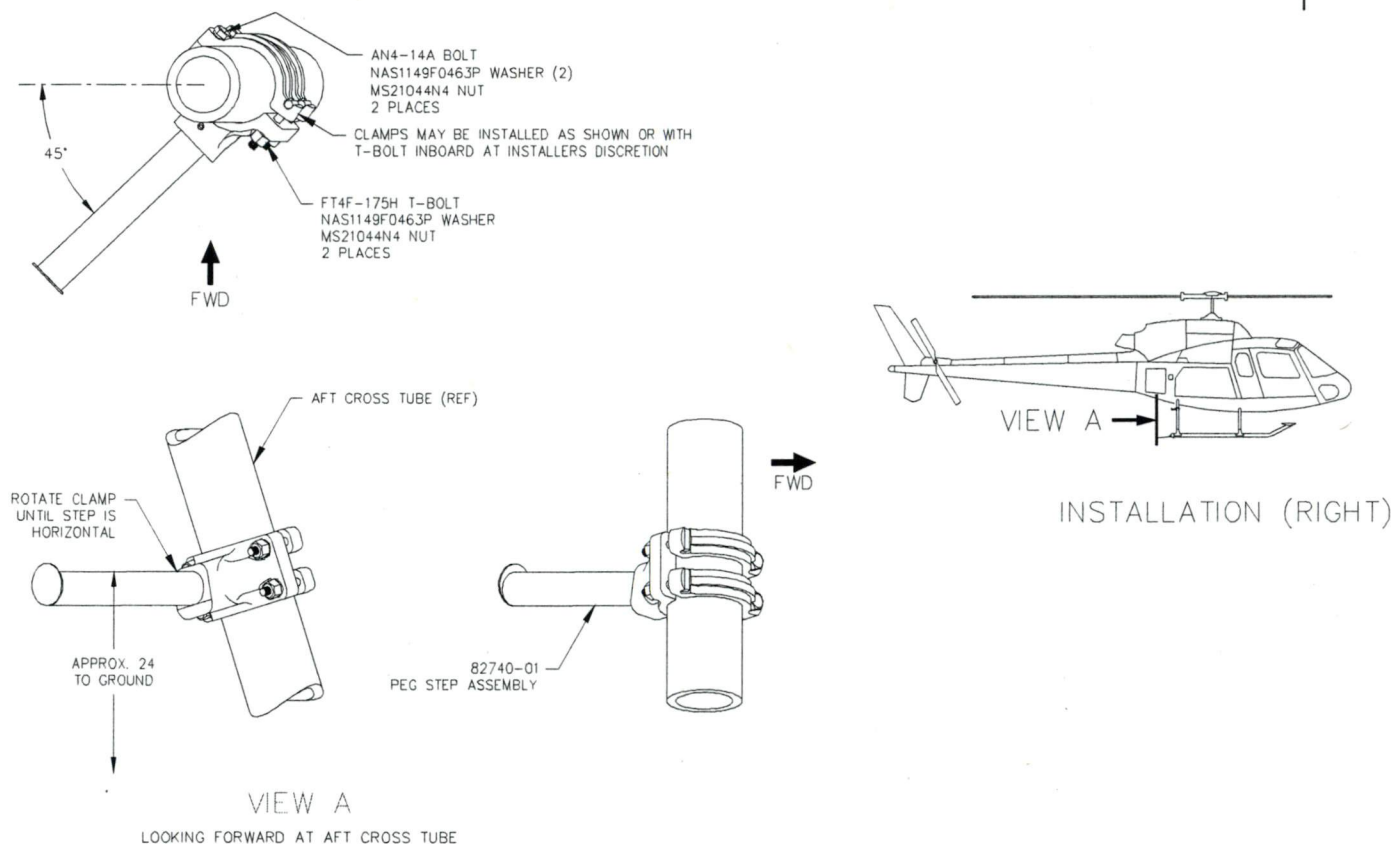


Figure 25-1 – Maintenance Peg Step Attachment Details

### 25-2 STEP REMOVAL

Refer to Figure 2.

1. Remove AN4-14A Bolts, FT4F-175H T-Bolts, NAS1149F0463P Washers, and MS21044N4 Nuts attaching Step Assembly to aft cross tube. Remove Step Assembly.



**25-3 WEIGHT AND BALANCE**

82707 Configuration

**Standard**

P/N	Description	Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
82707-01	Maintenance Peg Step Inst'n (Right)	1.0	163.8	163.8	32.5	32.5
82707-01	Maintenance Peg Step Inst'n (Left)	1.0	163.8	163.8	-32.5	-32.5

**Metric**

P/N	Description	Weight	Longitudinal		Lateral	
		kg	arm mm	moment mm-kg	arm mm	Moment mm-kg
82707-01	Maintenance Peg Step Inst'n (Right)	0.45	4160.5	1872.2	825.5	371.5
82707-01	Maintenance Peg Step Inst'n (Left)	0.45	4160.5	1872.2	-825.5	-371.5

**25-4 STRUCTURAL FASTENER DATA**

Refer to Standard Practices Manual for torque values not listed in this ICA.

# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

## APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

### BLOCK 1

Name of the applicant for the design change approval:	Aero Design Ltd.
Description of the design change:	Installation of Fixed Cabin Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
Certification Basis of design change and revision date:	FAR 27, Amendment 27-20
CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:	Section 0-3 of Supplemental ICA (ICA 827.92)
CAR Standard 513.05 (1) (g) (iv): Installation Instructions:	Installation Drawing 82705, 82706, 82709, 82750, 82751, 82752, 82770, 82771, 82772, 82773

### BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.92, Rev. 4)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5

**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A



**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

<b>Regulatory Standard Reference Column 1</b>	<b>Design Approval Holder (DAH) ICA Reference Column 2</b>	<b>Applicant Means of Compliance Supplemental ICA Requirements Column 3</b>
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 thru 25-6
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-8
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-9
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A



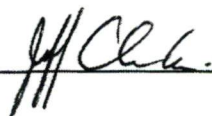
## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

<b>A527.4 AWL - Separate Section 1</b> The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Section 4
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### BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.	
Applicants Signature: <u></u>	Date: <u>01 August 2014</u>
Applicants Name: <u>Jeff Clarke, Vice President</u>	

### BLOCK 5 – Minister's Statement of Acceptability

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.			
Reviewer's Name: <u>Jack Staal</u>	Phone # <u>780-495-5227</u>	Email: <u>jack.staal@tc.gc.ca</u>	Mail Routing Symbol: <u>FA 1</u>
Signature: _____	Date: <u>10 Feb 2015</u>	NAPA Number: <u>C-14-0821</u>	

Rev 4

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 827.92

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### AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES

### FIXED CABIN STEPS

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

#### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Fixed Cabin Step installed in accordance with Aero Design Ltd. Document Control List DCL827-3, Revision 7, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 4  
Date: 31 July 2014

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Aero Design Ltd.



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**RECORD OF REVISIONS**

Revision Number	Issue Date	Date Inserted	By
0	20 October 2008		Original Issue
1	23 July 2009		
2	28 June 2010		
3	29 November 2012		
4	31 July 2014		

**LIST OF EFFECTIVE PAGES**

List of Revisions	Revision 0 (Original Issue)	20 October 2008
	Revision 1	23 July 2009
	Revision 2	28 June 2010
	Revision 3	29 November 2012
	Revision 4	31 July 2014

**List of Effective Pages**

<u>Description</u>	<u>Page</u>	<u>Revision</u>	<u>Description</u>	<u>Page</u>	<u>Revision</u>
Cover	1	4	25-50-00	11	4
Revision Record	2	4		12	4
Table of Contents	3	3		13	4
00-00-00	4	4		14	4
	5	3		15	4
04-00-00	6	4		16	4
05-00-00	7	4		17	4
	8	4		18	4
25-00-00	9	4		19	4
	10	4		20	3

**NOTE**

Revised text is indicated by a black vertical line. A revised page with only a vertical line next to the page number indicates that text has shifted or that non-technical correction(s) were made on that page. Insert latest revision pages; dispose of superseded pages.

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Fixed Cabin Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Fixed Cabin Step. Requests for a copy may be made in writing to:

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

The Long Fixed Cabin Step (82705-01), Long Fixed Commuter Cabin Step (82751-01-XX), and Long DART Step Conversion (82771-01 and 82773-01) are NOT compatible with the Aero Design Ltd. Long or Extra Large Cargo Baskets installed in accordance with STC SH08-16 (drawing 78401 or 94001), but may be installed on the opposite side of the helicopter to the Long or Extra Large Cargo Basket.

The Short Fixed Cabin Step (82706-01 and 82706-11), Short Fixed Commuter Cabin Step (82750-01-XX), and Short DART Step Conversion (82770-01 and 82772-01) are compatible with all Aero Design Ltd. Cargo Baskets installed in accordance with STC SH08-16 in any mounting configuration.

The Full Length Cabin Step (82709-01) and Full Length Commuter Cabin Step (82752-01-XX) are NOT compatible with any Aero Design Ltd. Cargo Baskets installed in accordance with STC SH08-16, but may be installed on the opposite side of the helicopter to the Cargo Basket.

## 0-5 GENERAL DESCRIPTION

The Fixed Cabin Step installation consists of a step assembly which is attached to the forward end of the skid tube, running aft to the aft cross tube (full length configuration), to the forward cross tube (long configuration), or a bracket attached to the skid tube located under the door (short configuration). The different configurations are provided to accommodate Aero Design Ltd. Quick Release Cargo Baskets while providing the longest step possible for access to the cabin.

The step itself consists of an aluminum extrusion attached to a sheet metal assembly that attaches to the forward end of the skid tube. Aluminum brackets are used to attach the aft end.

The commuter step is an additional section added to the basic step that provides 3 steps up to the cabin. The steps are similar to the non-commuter configuration, but are reinforced at the forward end.

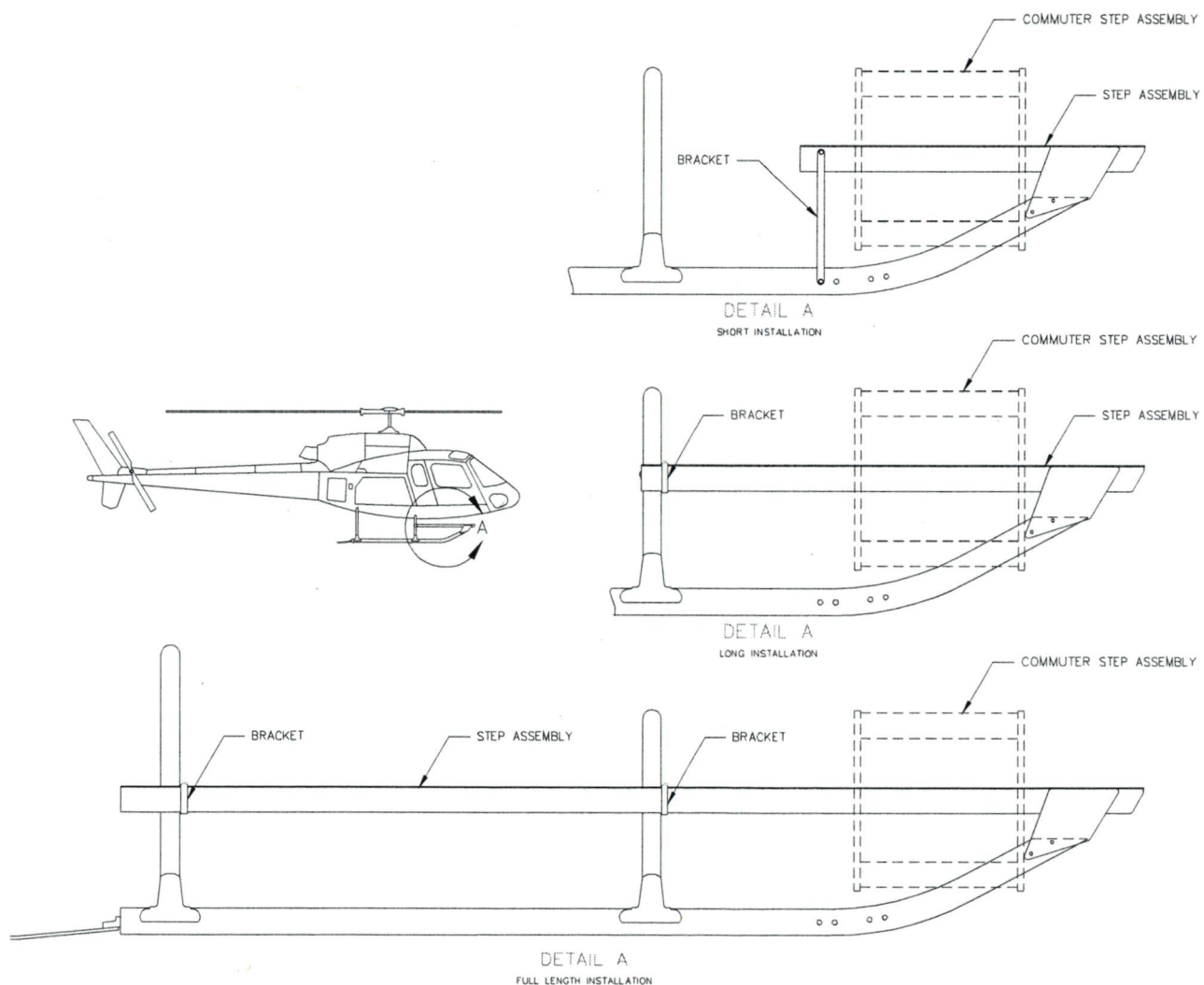


Figure 0-1 – AS350 Fixed Cabin Step Installations

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

### *EASA*

The Airworthiness Limitations section is approved and variations must also be approved.

No additional airworthiness limitations have been imposed due the installation of the Fixed Cabin Steps.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Fixed Cabin Step.

#### *Daily Inspection*

1. Inspection Area: Step
  - a) Full Length step only: Inspect the bracket and clamp attaching the step to the aft cross tube for condition and security.
  - b) Long and Full Length steps only: Inspect the bracket and clamp attaching the step to the forward cross tube for condition and security.
  - c) Short step only: Inspect bracket attaching aft end of step to skid tube for condition and security.
  - d) Inspect the forward step attachment sheet metal bracket for condition and security.
  - e) Commuter steps only: Inspect the attachments of the commuter step section to the basic step for condition and security.

#### *100 Hour or Annual Inspection*

1. Inspection Area: Step
  - a) Visually inspect all mounting hardware for condition and security.
  - b) Visually inspect step, mounting brackets, and clamps for condition and security.
  - c) Long and Full Length steps only: Check clamps for slipping on the cross tube(s). Step should be parallel to the ground (+/- 0.25"), use height at attachment to forward tip of skid tube as a reference.

#### *Special Inspections*

1. Following a hard landing inspect the Fixed Cabin Step installation in accordance with the 100 hour or annual inspection listed above.
2. Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601



## 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

### 1. Step Assembly (including commuter step section)

Part	Type of Damage	Max. Allowable	Repair
Brackets, Clamps	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Bent Lugs	None	N/A
Step Section	Corrosion	2" x 2" x 0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 1" long	Blend up to 0.010" deep with scotchbrite.
	Cracks / Dents	None	N/A
	Permanent Deflection of Step	0.25" max at middle of step	None

### 2. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

1/4-28 insert: 3591-4CN375

## 5-3 PROTECTIVE TREATMENT INFORMATION

### 1. Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint.

The tread areas have two strips of 3M Safety-Walk grip tape. If the grip tape is damaged replace with equivalent grip tape, or apply Randolph X1567 Wingwalk grip paint or equivalent to the top surface.

### 2. Brackets / Clamps

The brackets and clamps are supplied painted, powder coated or anodized. If the finish is damaged, touch up with polyurethane paint.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

The Fixed Cabin Step Installation may be applied to the right and/or left side of the helicopter.

Installation of the Commuter Step (any configuration) is identical to the standard installation. Commuter Steps are "sided" right and left. The side is identified in the part number by the last dash number: -01 is Right, -02 is Left.

### 25-1 SHORT STEP INSTALLATION

Configuration: 82706-01 (standard), 82706-11 (extra short), 82750-01-XX (commuter), 82770-01 (DART Conversion), 82772-01 (DART Conversion, old style)

Refer to Figure 25-1 and 25-2.

1. Remove existing bolt, nut, and cups from last float provision hole at forward end of skid tube. For extra short configuration use second hole from front.
2. Insert Bushing 82733-02 into hole in skid tube. Set Bracket 82733-01 (82782-01 for DART conversion) over bushing. Insert AN4-42A bolt with NAS1149F0463P washer through bracket and bushing. Install NAS1149F0463P washer and MS21044N4 nut on bolt. Do not tighten nut.
3. Set step assembly (82715-01 standard, 82719-01 extra short, 82718-01-XX commuter, 82770-10 DART Conversion, 82772-10 Dart Conversion) on bracket. Insert AN4-42A Bolt with NAS1149F0463P Washer through bracket and step. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt. Do not tighten nut.

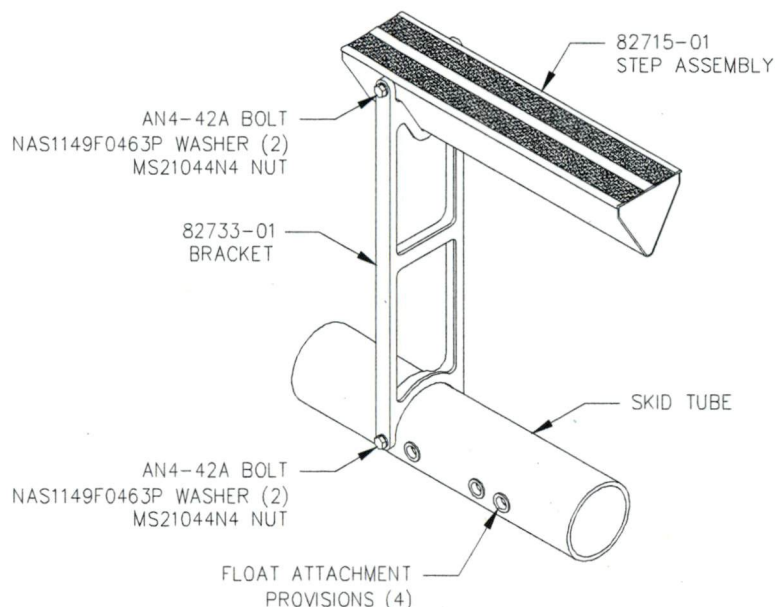


Figure 25-1 – Short Step Aft Attachment

4. At the forward end of the step, install two (2) AN3-35A Bolts, NAS1149F0363P Washers (2), and MS21044N3 Nuts through existing holes in forward end of skid tube.

DART Conversion only: use two (2) AN3-37A Bolts.

## 5. Tighten all hardware as follows:

AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)

AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

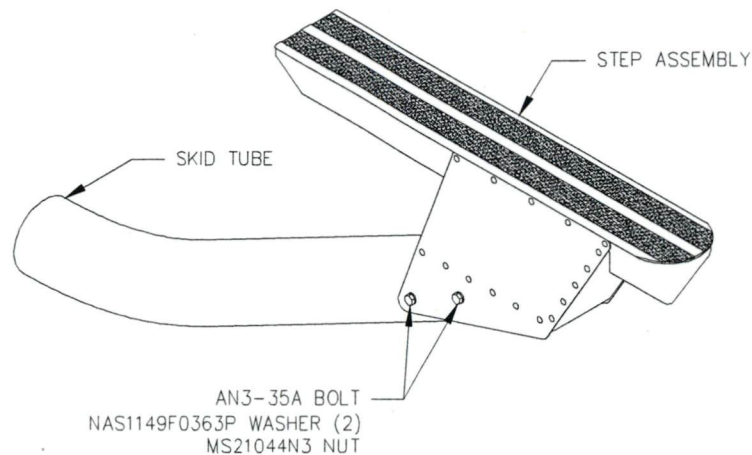


Figure 25-2 – Forward Step Attachment

**25-2 SHORT STEP REMOVAL**

Configuration: 82706-01 (standard), 82706-11 (extra short), 82750-01-XX (commuter), 82770-01 (DART Conversion), 82772-01 (DART Conversion, old style)

Refer to figure 25-1 and 25-2.

1. Remove AN3-35A Bolts (or AN3-37A Bolts), NAS1149F0363P Washers (2), and MS21044N3 Nuts attaching forward end of step to skid tube.
2. Remove AN4-42A Bolt, NAS1149F0463P Washers (2), and MS21044N4 Nut attaching step to bracket. Remove step.
3. Remove AN4-42A Bolt, NAS1149F0463P Washers (2), and MS21044N4 Nut attaching bracket to skid tube. Remove bracket and bushing from skid tube.
4. Install 22201TK050-072X Screw, 350A41-1095-20 Cup (2), 23119TK050X Washer, and ASN52320BH050N Nut in hole in skid tube. Refer to Illustrated Parts book and Maintenance Manual.



### 25-3 LONG STEP INSTALLATION

Configuration: 82705-01 (standard), 82751-01-XX (commuter), 82771-01 (DART Conversion), 82773-01 (DART Conversion, old style)

Refer to Figure 25-3 thru 25-5.

1. Attach Clamp Assembly 78620-01 to Bracket 82723-01 (82780-01 or 82785-01 for DART Conversion) with one (1) AN4-4A Bolt and NAS1149F0463P Washer. Orient clamp with T-bolt side inboard, and bracket forward. Do not tighten bolt. Slide bracket with clamp onto aft end of step.

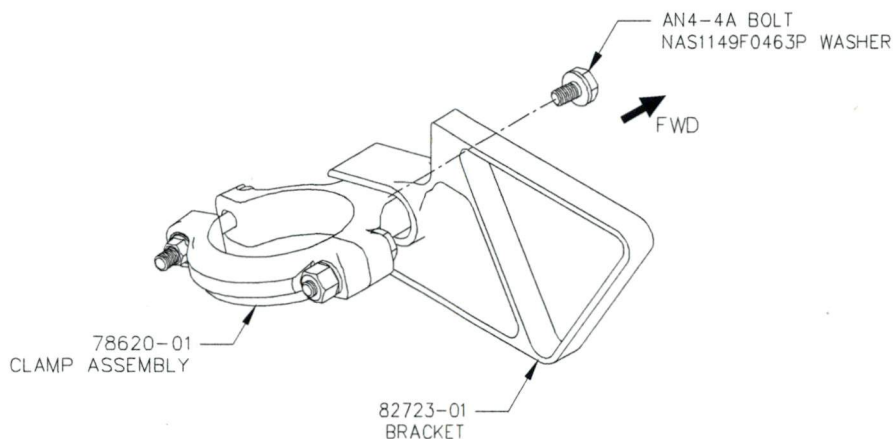


Figure 25-3 – Clamp and Bracket Assembly  
(Right side shown, left side opposite)

2. Locate forward end of step assembly (82717-01 standard, 82718-02-XX commuter) on skid tube. Install two (2) AN3-35A Bolts, NAS1149F0363P Washers (2), and MS21044N3 Nuts into existing holes in forward end of skid tube.

DART Conversion Only: Use step assembly 82771-10 or 82773-10; two (2) AN3-37A bolts.

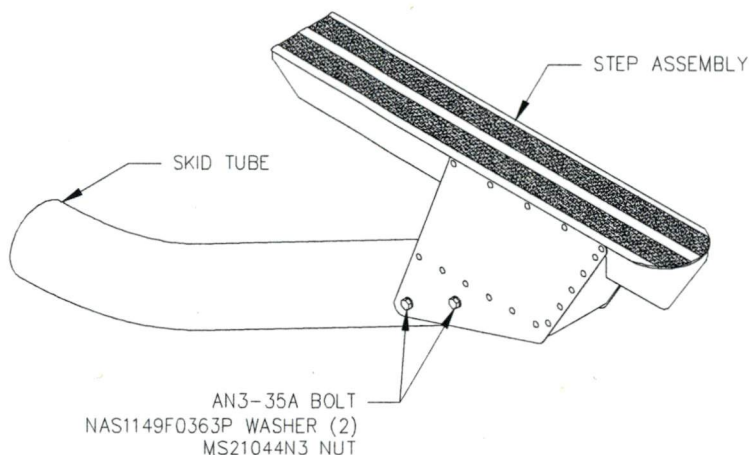


Figure 25-4 – Forward Step Attachment

3. Slide clamp and bracket assembly aft along step until clamp can be attached to forward cross-tube.



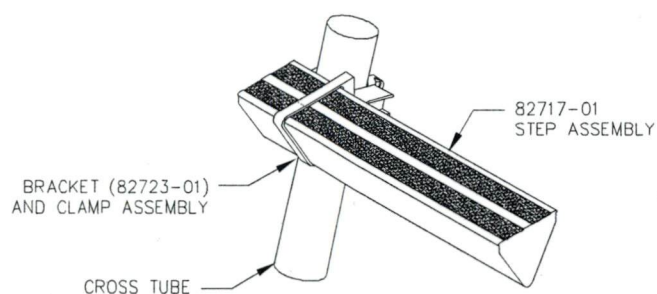


Figure 25-5 – Long Step Aft Attachment

4. Tighten clamp bolts to prevent the clamp from slipping on the cross tube.
5. Level the step parallel to the ground ( $\pm 0.25$ "). Nominal height is 17.5".
6. Tighten all hardware as follows:
  - AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)
  - AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

#### 25-4 LONG STEP REMOVAL

Configuration: 82705-01 (standard), 82751-01-XX (commuter), 82771-01 (DART Conversion), 82773-01 (DART Conversion, old style)

Refer to Figure 25-3 thru 25-5.

1. Remove AN3-35A Bolts (or AN3-37A Bolts), NAS1149F0363P Washers, and MS21044N3 Nuts attaching forward end of step to skid tube.
2. Remove bolts securing clamp to cross tube.
3. Remove step assembly.

## 25-5 FULL LENGTH STEP INSTALLATION

Configuration: 82709-01 (standard), 82752-01-XX (commuter)

Refer to Figure 25-6 thru 25-8.

1. Attach Clamp 78620-01 to Bracket 82723-01 with AN4-4A Bolt and NAS1149F0463P Washer. Orient clamp with T-bolt side inboard, and bracket on forward side of cross tube. Do not tighten bolt. Slide bracket with clamp onto aft end of step. See figure 25-6. Repeat for second Bracket.

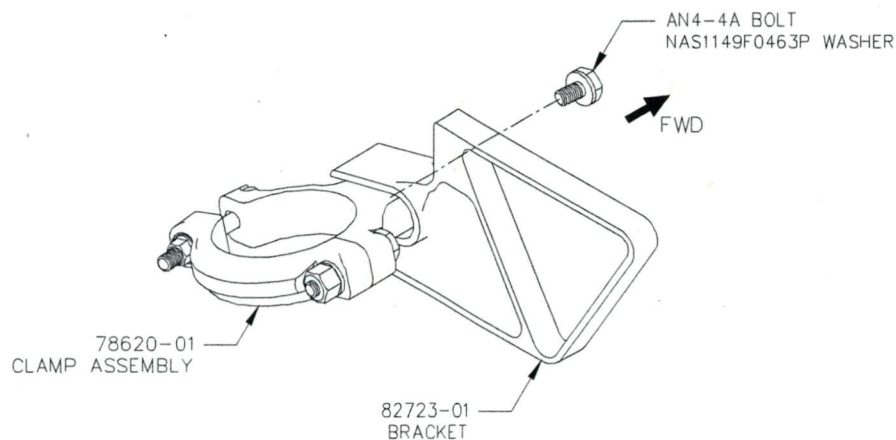


Figure 25-6 – Clamp and Bracket Assembly  
(Right side shown, left side opposite)

2. Locate forward end of step assembly on forward end of skid tube. Install two (2) AN3-35A Bolt, NAS1149F0363P Washers (2), and MS21044N3 Nut into existing holes in forward end of skid tube. See figure 25-7.

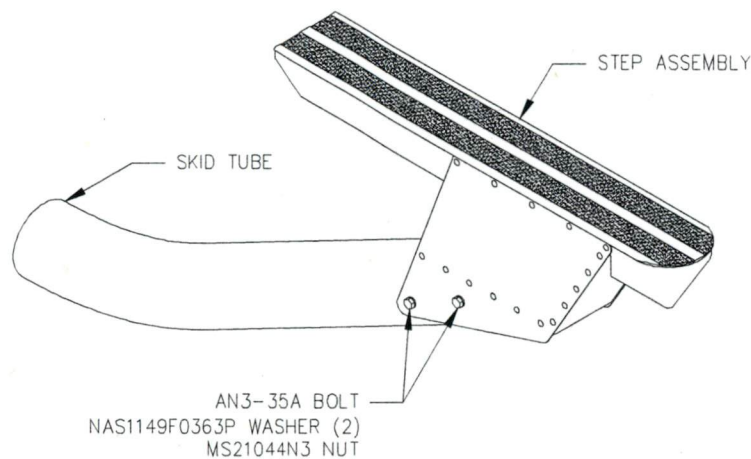


Figure 25-7 – Forward Step Attachment

3. Slide clamp and bracket (82723-01) assembly along step until clamp can be attached to forward cross-tube. Repeat at aft cross tube. See Figure 25-8.

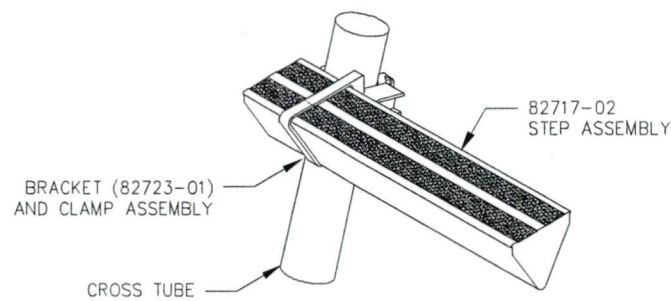


Figure 25-8 – Aft Step Attachment

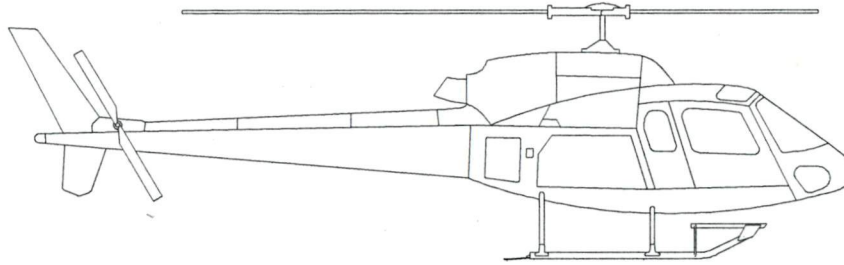
4. Tighten clamp bolts to prevent the clamp from slipping on the cross tube.
5. Level the step parallel to the ground (+/- 0.25"). Nominal height is 17.5".
6. Tighten all hardware as follows:
  - AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)
  - AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

## 25-6 FULL LENGTH STEP REMOVAL

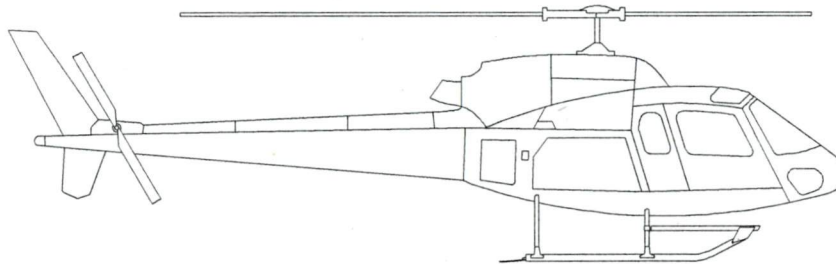
Configuration: 82709-01

Refer to figures 25-6 thru 25-8.

1. Remove fasteners from clamps on forward and aft cross tubes.
2. Remove AN3-35A bolts, NAS1149F0363P Washers, and MS21044N3 Nuts attaching forward end of step to forward tip of skid tube.
3. Remove step assembly.

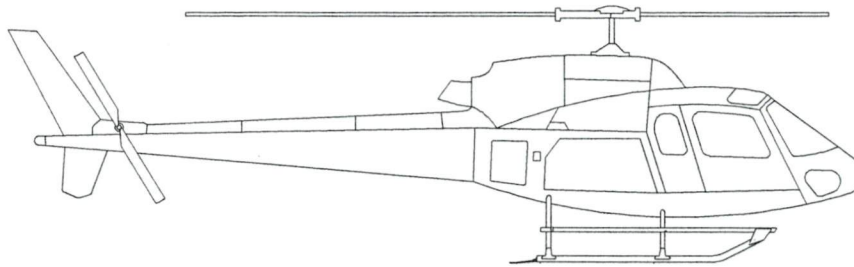
**25-7 BILL OF MATERIALS****SHORT CABIN STEP INSTALLATION**

Qty.	Part Number	Description
	<b>82706-01</b>	<b>Short Cabin Step Installation</b>
. 1	82715-01	Step Assembly
	82706-11	<b>Extra Short Cabin Step Installation</b>
. 1	82719-01	Extra Short Step Assembly
. 1	82733-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

**LONG CABIN STEP INSTALLATION**

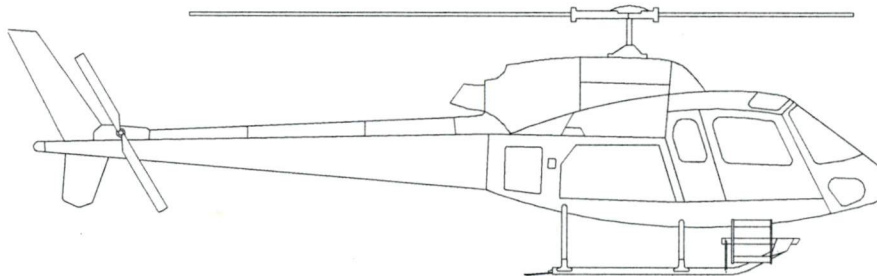
Qty.	Part Number	Description
	<b>82705-01</b>	<b>Long Cabin Step Installation</b>
. 1	82717-01	Step Assembly
. 1	82723-01	Bracket
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 1	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut





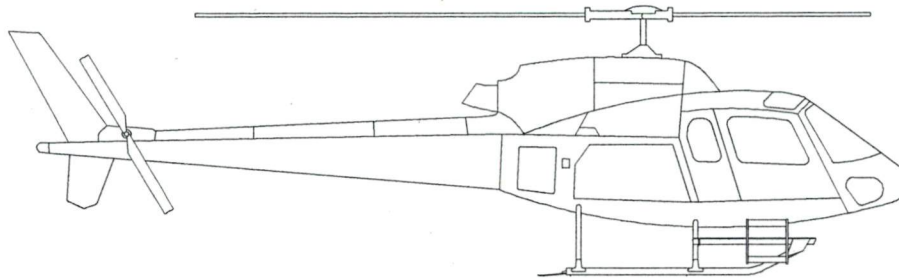
### FULL LENGTH CABIN STEP INSTALLATION

Qty.	Part Number	Description
	<b>82709-01</b>	<b>Full Length Cabin Step Installation</b>
. 1	82717-02	Step Assembly
. 2	82723-01	Bracket
. 2	78620-01	Clamp Assembly
. 2	AN4-4A	Bolt
. 2	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

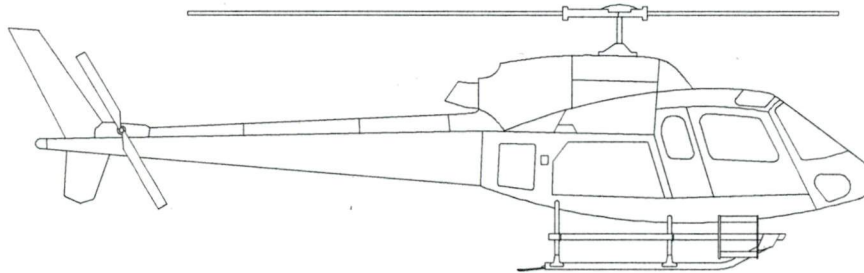


### SHORT COMMUTER CABIN STEP INSTALLATION

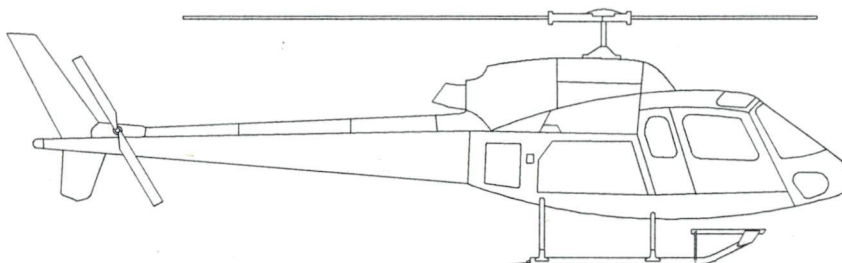
Qty.	Part Number	Description
	<b>82750-01-01</b>	<b>Short Commuter Cabin Step Installation (RH)</b>
	<b>82750-01-02</b>	<b>Short Commuter Cabin Step Installation (LH)</b>
. 1	82718-01-01	Step Assembly (RH)
. 1	82718-01-02	Step Assembly (LH)
. 1	82733-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

**LONG COMMUTER CABIN STEP INSTALLATION**

Qty.	Part Number	Description
	<b>82751-01-01</b>	<b>Long Commuter Cabin Step Installation (RH)</b>
	<b>82751-01-02</b>	<b>Long Commuter Cabin Step Installation (LH)</b>
. 1	82718-02-01	Step Assembly (RH)
. 1	82718-02-02	Step Assembly (LH)
. 1	82723-01	Bracket
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 2	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

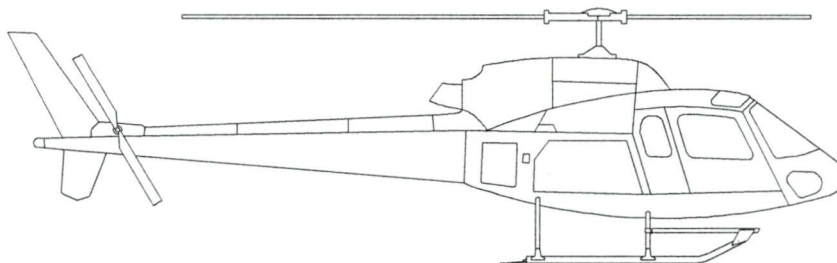
**FULL LENGTH COMMUTER CABIN STEP INSTALLATION**

Qty.	Part Number	Description
	<b>82752-01-01</b>	<b>Full Length Commuter Cabin Step Installation (RH)</b>
	<b>82752-01-02</b>	<b>Full Length Commuter Cabin Step Installation (LH)</b>
. 1	82718-03-01	Step Assembly (RH)
. 1	82718-03-02	Step Assembly (RH)
. 2	82724-01	Bracket
. 2	78620-01	Clamp Assembly
. 2	AN4-4A	Bolt
. 3	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



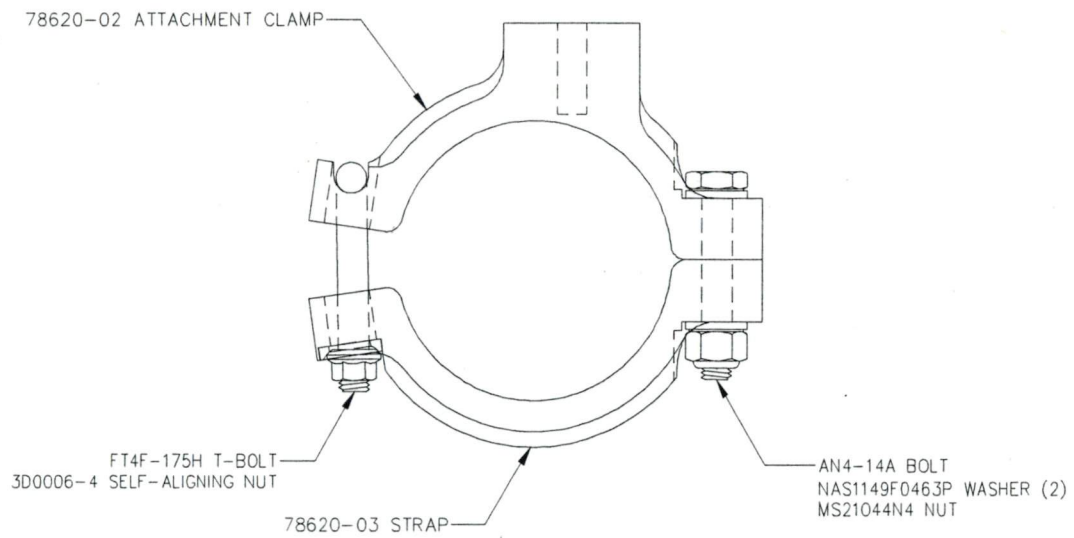
### SHORT CABIN STEP INSTALLATION - DART CONVERSION

Qty.	Part Number	Description
	<b>82770-01</b>	<b>Short Cabin Step Installation – DART Conversion</b>
	<b>82772-01</b>	<b>Short Cabin Step Installation – DART Conversion (old style)</b>
. 1	82770-10	Step Assembly (82770-01)
. 1	82772-10	Step Assembly (82772-01)
. 1	82782-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-37A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



### LONG CABIN STEP INSTALLATION - DART CONVERSION

Qty.	Part Number	Description
	<b>82771-01</b>	<b>Long Cabin Step Installation – DART Conversion</b>
	<b>82773-01</b>	<b>Long Cabin Step Installation – DART Conversion (Old Style)</b>
. 1	82771-10	Step Assembly (82771-01)
. 1	82773-10	Step Assembly (82773-01)
. 1	82780-01	Bracket (82771-01)
. 1	82785-01	Bracket (82773-01)
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 1	NAS1149F0463P	Washer
. 2	AN3-37A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

**CLAMP ASSEMBLY**

Qty.	Part Number	Description
	<b>78620-01</b>	<b>Clamp Assembly</b>
. 1	78620-02	Attachment Clamp (with mounting pad)
. 1	78620-03	Strap (no mounting pad)
. 1	AN4-14A	Bolt
. 2	NAS1149F0463P	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	3D0006-4	Self Aligning Nut



**25-8 WEIGHT AND BALANCE****Standard**

P/N	Description	Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
82706-01	Short Cabin Step Installation	4.2	69.1	290.2	39.4	165.5
82705-01	Long Cabin Step Installation	5.0	76.2	381.0	39.4	197.0
82709-01	Full Length Cabin Step Installation	9.8	107.9	1057.4	39.4	386.1
82750-01-XX	Short Commuter Cabin Step Installation (-01 RH / -02 LH)	12.2	70.7	862.2	41.9	511.1
82751-01-XX	Long Commuter Cabin Step Installation (-01 RH / -02 LH)	13.0	73.3	953.0	41.7	542.6
82752-01-XX	Full Length Commuter Cabin Step Installation (-01 RH / -02 LH)	17.8	91.5	1629.4	41.1	731.7
82770-01	Short Cabin Step Installation – DART Conversion	5.0	69.5	347.5	39.4	197.0
82771-01	Long Cabin Step Installation – DART Conversion	6.5	69.5	451.8	39.4	256.1
82772-01	Short Cabin Step Installation – DART Conversion, Old Style	6.8	77.1	524.3	39.4	267.9
82773-01	Long Cabin Step Installation – DART Conversion, Old Style	9.5	77.1	732.5	39.4	374.3

**Metric**

P/N	Description	Weight	Longitudinal		Lateral	
		kg	arm mm	moment mm-kg	Arm Mm	moment mm-kg
82706-01	Short Cabin Step Installation	1.9	1755	3335	1000	1900
82705-01	Long Cabin Step Installation	2.3	1935	4378	1000	2260
82709-01	Full Length Cabin Step Installation	4.4	2741	12155	1000	4434
82750-01-XX	Short Commuter Cabin Step Installation (-01 RH / -02 LH)	5.5	1795	9910	1064	5874
82751-01-XX	Long Commuter Cabin Step Installation (-01 RH / -02 LH)	5.9	1862	10953	1060	6236
82752-01-XX	Full Length Commuter Cabin Step Installation (-01 RH / -02 LH)	8.1	2325	18727	1044	8410
82770-01	Short Cabin Step Installation – DART Conversion	2.3	1765	3994	1000	2262
82771-01	Long Cabin Step Installation – DART Conversion	2.9	1765	5192	1000	2941
82772-01	Short Cabin Step Installation – DART Conversion, Old Style	3.1	1958	6026	1000	3077
82773-01	Long Cabin Step Installation – DART Conversion, Old Style	4.3	1958	8418	1000	4299

Note: Lateral arms are given for right side installation. For installation on left side, lateral arms are negative.

**25-9 STRUCTURAL FASTENER DATA**

Refer to Standard Practices Manual for torque values not listed in this ICA.

**CHANGED PRODUCT RULE (CPR) DECISION RECORD**

(This form should be signed with the Design Change Approval Application Form 26-0469)

CPR Steps (Figure 1 of AMA 500/16)	Rationale
<b>Step 1:</b> Has the proposed change to the aeronautical product been identified? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(Per section 5.4 of AMA 500/16) The area(s) affected by the change have been detailed in document number(s): _____
<b>Step 2:</b> Is the change substantial? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Per section 5.5 of AMA 500/16) _____
<b>Step 3:</b> Will the latest standards be used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Per section 5.6 of AMA 500/16) applicant accepts the use of the latest amendments to the standards for all areas affected by the change.
<b>Step 4:</b> Is the proposed change significant? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Per section 5.7 of AMA 500/16) _____
<b>Decision:</b> Will the latest standards be used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	applicant accepts the use of the latest amendments to the standards for all areas affected by the change.
<b>Step 5:</b> For every area, is the area affected by the proposed change? <input type="checkbox"/> Yes <input type="checkbox"/> No	(Per section 7.4 of AMA 500/16) The area(s) affected by the significant change have been detailed in Certification Plan or Compliance Program (or equivalent) document number(s): _____
	A delegate may develop a proposal for the Yes/No decision of Step 6(a) and (b), however, TCCA will make the final determination of the acceptability of these exceptions.
<b>Step 6(a):</b> Do the latest standards contribute materially to the level of safety? <input type="checkbox"/> Yes <input type="checkbox"/> No	(Per section 7.5 of AMA 500/16) _____
<b>Step 6(b):</b> If the latest standards contribute materially to the level of safety are they practical? <input type="checkbox"/> Yes <input type="checkbox"/> No	(Per section 7.5 of AMA 500/16) _____
Has an Issue Paper been generated to document the certification basis and to record the decisions made? <input type="checkbox"/> Yes <input type="checkbox"/> No	_____

Under the authority vested in me by the Minister, I have examined the change in type design listed above according to established procedures and hereby determine that it is significant / not-significant pursuant to subsection 511.13(3) or 513.07(3) of the CARs, to the best of my knowledge and belief.

Name and Signature

TC AC Engineering Tech.

Date

10 Feb 2015.

# **CERTIFICATION PLAN**

**CP827**

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## **AIRBUS HELICOPTERS (EUROCOPTER) AS350 SERIES & AS355 SERIES**

### **CABIN AND MAINTENANCE STEPS REVISION TO UPDATE HOLDER**

Prepared by: Jeff Clarke, P.Tech.(Eng.)

Revision 1, 18 July 2014  
(supplements original Compliance Program CP827, Rev. 0)

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## 1.0 INTRODUCTION

This certification plan details the means and methods of compliance for the Airworthiness Requirements shown on the Compliance Program (Appendix A). This document supplements the original Compliance Programs, CP827 Rev. 0.

This reissue of approval SH09-38 to issue 4 is to update the holder address and incorporate minor design changes into the approval.

Application for an EASA STC and amendment to FAA STC SR02770NY will follow reissue of the Canadian approval.

## 2.0 PROJECT DESCRIPTION

### *Fixed Cabin Steps*

Installation of the Quick Release Baskets requires the removal of existing flight steps for accessing the cabin. In order to aid access to the cabin, steps are installed that accommodate the cargo basket installations. All of the steps attach to the forward tip of the cross tube where provisions of 2 holes are provided. Three configurations are available: a short step running to the aft float provisions in the skid tube, supported by a bracket down to the skid tube; a long step running to a bracket attached to the forward cross tube; and a full length step running to brackets on the forward and aft cross tubes. The steps are made of an aluminum extrusion with welded caps, and brackets riveted to the forward end. The aft supporting brackets are machined aluminum.

Alternate configurations are also available, made by modifying the existing steps from another manufacturer. The modification cuts the step off at a length compatible with the baskets and plugs the end with a machined aluminum cap, leaving the forward end intact. The modified aft end is then supported with similar brackets to those used in the configurations above.

### *Quick Release Maintenance Steps*

When the quick release mounting provisions are installed, a step is useful for access to the engine area to perform maintenance. The step can be stowed at the bottom of the basket mounting beams so it can travel with the helicopter without taking up space in the cabin or in the basket. Two configurations are provided: the standard quick release maintenance step runs between the forward and aft cross tubes; the extended quick release maintenance step extends out the forward end by 19". The extended step fills the space between the forward cross tube and the short cabin step when the cargo basket is not installed to aid passenger access to the cabin. The steps are made of an aluminum extrusion welded to brackets that contain the fittings for attaching to the quick release mounting provisions.

### *Maintenance Peg Step*

A peg step mounted on the aft cross tube is useful to aid in stepping up to the top of the cross tube for maintenance. The peg step is clamped in place using similar clamps to the cargo basket mounts, which allow for variation found in the diameter of the tube. The step is made of machined aluminum straps and socket with a stainless steel tube pressed in.

### 3.0 BASIS OF CERTIFICATION

*Airbus Helicopters (formerly Eurocopter) AS350 B, B1, B2, B3, BA, D, TCDS H-83, Issue 22:*  
AS350 B3 (highest of all AS350 models):

FAR 27 effective 1 February 1965 including amendments 27-1 through 27-10.

Plus TCCA Additional Airworthiness Requirement as published in Airworthiness Manual Chapter 527 (Normal Category Rotorcraft) Change 3 dated January 3, 1994:

- a) 527.1093(b)(I)(ii) and (iii) -Induction System Icing Protection.
- b) 527.1301.1 -Rotorcraft Operations After ground Cold Soak.
- c) 527.1557(c)(3) -Miscellaneous Markings and Placards.
- d) 527.1581(e),(f) Rotorcraft Flight Manual
- e) 527.1583(h) -Ambient Temperature Limitation

*Eurocopter AS355 E, F, F1, F2, N, NP, TCDS H-87, Issue 9:*  
AS355NP (highest of all AS355 models):

FAR 27 Amendment 20, dated March 26, 1984, (such as modified by CTC 27) plus the following paragraphs of Amendment 21, dated December 6, 1984:

27.21, 27.45, 27.71, 27.79, 27.143, 27.151, 27.161, 27.173, 27.175, 27.177, 27.672, 27.673, 27.729, 27.735, 27.779, 27.807, 27.1329, 27.1413, 27.1519, 27.1525, 27.1555, 27.1585, 27.1587;

Plus FAR 27 amendment 23, paragraph 27.923.

Additional Airworthiness Requirements (AARs) Canadian Airworthiness Manual, Chapter 527 (Normal Category Rotorcraft):

- a) 527.1093(b)(I)(ii) and (iii) Induction System Icing Protection
- b) 527.1301-1 Rotorcraft Operations After Ground Cold Soak
- c) 527.1557(c) (3) Miscellaneous Markings and Placards
- d) 527.1583(h) Ambient Temperature Limitation

### 4.0 APPLICABILITY OF AIRWORTHINESS DIRECTIVES

Airworthiness Directives applicable to the Eurocopter AS350 and AS355 (all models) were reviewed on 18 July 2014, and none were found to affect this project.

### 5.0 PERSONNEL

Applicant: Aero Design Ltd. – Jeff Clarke, P.Tech.(Eng.)

Delegate: None – no changes to findings of compliance, see section 6.0 and 7.0

Transport Canada: Jack Staal, PNR Region



## **6.0 CERTIFICATION PLAN**

Re-issue of the approval is to reflect the change of address of the holder. Minor changes to the approved drawings are also incorporated at this issue. Evaluation of the changes is addressed in Section 7.0. There are no changes to the design data that invalidate the existing findings of compliance.

### **6.1 FAR 27.251 – Vibration; FAR27.629 - Flutter**

#### **6.1.1 Means of Compliance**

- a) Flight Test

#### **6.1.2 Method of Compliance**

- a) Flight Test conducted by TCCA

#### **6.1.3 Compliance Documents, Data and Testing**

Flight test report prepared by TCCA test pilot Michel Brulotte, 08 Oct 2010

#### **6.1.4 Schedule**

None.

#### **6.1.5 Level of Delegation**

None.

#### **6.1.6 Level of Involvement / Service**

None.

### **6.2 FAR 27.1581 – Rotorcraft Flight Manual**

#### **6.2.1 Means of Compliance**

- a) Flight Manual Supplement provided

#### **6.2.2 Method of Compliance**

- b) Flight manual supplement prepared to show normal procedures in accordance with FAR 27.1585.
- c) There are no operating limitations in accordance with FAR 27.1583.
- d) There is no performance information in accordance with FAR 27.1587.
- e) There is no loading information in accordance with FAR 27.1589.

#### **6.2.3 Compliance Documents, Data and Testing**

Flight Manual Supplement FMS827.90 to Revision 4.

The existing approved sections (I – V) are not changed.



Changes from TCCA accepted Revision 3:

1. Cover: Add contact information; add "Airbus Helicopters (Eurocopter)"; add EASA STC line.
2. Section VII - weight and balance: "Eurocopter Pod Compatible" configurations changed to "Cargo Pod Compatible"

#### **6.2.4 Schedule**

FMS827.90 revision 4 - submit to TC for review by 08 August 2014.

#### **6.2.5 Level of Delegation**

None

#### **6.2.6 Level of Involvement / Service**

<b>Deliverable</b>	<b>Transport Canada Service</b>
FMS827.90 Rev. 4	Requires Transport Canada review and approval

### **6.3 FAR 27.1529**

#### **6.3.1 Means of Compliance**

- a) Instructions for Continued Airworthiness provided

#### **6.3.2 Method of Compliance**

- a) Instructions for Continued Airworthiness are prepared in accordance with FAR 27 Appendix A

#### **6.3.3 Compliance Documents, Data and Testing**

Instructions for Continued Airworthiness ICA827.91 to Revision 5.

Changes from TCCA accepted Revision 4:

1. Cover: Contact information updated; DCL revision; add STC lines
2. Section 0-3: Contact information updated
3. Section 4: Add EASA limitation statement
4. Section 5: Change generic ICA references to ICA764.90 for mounting provisions
5. Section 5-3: Remove colour references (all were white). Add section for extended step because it does not use grip tape.
6. Section 25: Change generic ICA reference to ICA764.90 for mounting provisions; change "Eurocopter Pod Compatible Configuration" to "Cargo Pod Compatible Configuration".

Instructions for Continued Airworthiness ICA827.92 to Revision 4.

Changes from TCCA accepted Revision 3:

1. Cover: Contact information updated; DCL revisions; add STC lines
2. Section 0-3: Contact information updated
3. Section 0-4: Add Dart step conversions to compatibility.
4. Section 4: Add EASA limitation statement
5. Section 5-3: Remove colour references (all were white). Add alternate finishes.
6. Section 25: Add extra short configuration; update hardware part numbers (AN960 to NAS1149 etc.); metric torque specs added.

Instructions for Continued Airworthiness ICA827.93 to Revision 3.

Changes from TCCA accepted Revision 2:

1. Cover: Contact information updated; DCL revisions; add STC lines
2. Section 0-3: Contact information updated
3. Section 4: Fix FAA limitation statement; add EASA limitation statement
4. Section 5-3: Remove colour references (all were white); add alternate finishes.
5. Section 25: Update hardware part numbers (AN960 to NAS1149 etc.); metric torque specs added; corrected P/N in weight and balance.

#### **6.3.4 Schedule**

ICA827.91 Revision 5 – submit to TC for review by 08 August 2014.

ICA827.92 Revision 4 – submit to TC for review by 08 August 2014.

ICA827.93 Revision 3 – submit to TC for review by 08 August 2014.

#### **6.3.5 Level of Delegation**

None

#### **6.3.6 Level of Involvement / Service**

<b>Deliverable</b>	<b>Transport Canada Service</b>
ICA827.91 Rev. 5	Requires Transport Canada review and acceptance
ICA827.92 Rev. 4	Requires Transport Canada review and acceptance
ICA827.93 Rev. 3	Requires Transport Canada review and acceptance

## **7.0 EFFECT OF CHANGES ON EXISTING FINDINGS OF COMPLIANCE**

All documents - excluding engineering reports, load test reports, flight test reports or similar documents - are revised to incorporate the new company contact information and logo, which does not affect any finding of compliance. Changes beyond the address and logo are addressed below. A list of all changed documents is in Appendix B.

### **7.1 Flight Test Consideration**

This re-issue does not change the size, shape, position, weight, or attachment of any of the existing approved configurations of steps, therefore the existing flight tests remain valid.

A new configuration of "extra short" step is added which is 5.8" shorter than the existing approved short step. This configuration is addressed in section 7.6.2. This new step is fabricated the same as the existing short step, and mounted to the skid tube using the same bracket and hardware. The only difference is the length, and the shorter length makes the step more rigid. The change in length is not sufficient to invalidate the findings of the flight test for the short step configuration.

### **7.2 General**

The following changes are made on a number of drawings as indicated on the drawing:

Change: Metric units added.

Reason: Standard units in the existing manuals are in metric.

Effect: None.

Change: Hardware part numbers updated to current (e.g. AN960 Washer part numbers updated to NAS1149).

Reason: Update to current part numbers.

Effect: None.

Change: HuckMax rivets added as alternative to CherryMax rivets.

Reason: HuckMax rivets provide better forming of the rivet tail.

Effect: None. Both fasteners meet the requirements of NAS9301.

### **7.3 Document Control List DCL827-1 to Revision 6 – Quick Release Maintenance Step Installations**

FMS827.90 to Revision 4 addressed in section 6.0 above. Requires TCCA approval.

ICA827.91 to Revision 5 addressed in section 6.0 above. Requires TCCA acceptance.



### **7.3.1 Drawing 82701 to Revision 2 – Quick Release Maintenance Step Installation**

Change: Added to note 2: "The step cannot be stowed under the extra large ski basket, configuration 940".

Reason: The extra large ski basket uses the keyway required to stow the step.

Effect: None.

## **7.4 Document Control List DCL827-11 to Revision 4 – Quick Release Maintenance Step Assembly**

### **7.4.1 Drawing 82711 to Revision 1 – Extended Maintenance Step Assembly**

Change: Cap end modified

Reason: Original configuration required the end cap to be placed inside the step extrusion flush with the end and butt welded all around the edges, which was difficult to support the cap before the initial tack welds to hold the cap could be completed. The revised configuration cuts the end of the extrusion to the inside of the top surface, leaving a lip to support the cap, and the cap is enlarged to sit on the end of the extrusion (see 82720). The cap sitting on the end allows a corner bevel weld providing better weld penetration than the original butt weld.

Effect: Cap is non-structural, better weld penetration.

### **7.4.2 Drawing 82720 to Revision 2 – Extended Maintenance Step Parts**

Change: Cap size increased by 0.050" all around.

Reason: See justification above.

Effect: None.

## **7.5 Document Control List DCL827-2 to Revision 4 – Maintenance Peg Step Installation**

ICA827.93 to Revision 3 addressed in section 6.0 above. Requires TCCA acceptance.

### **7.5.1 Drawing 82707 to Revision 2 – Maintenance Peg Step Installation**

Change: Note 2 referenced provisions in accordance with 78601 and 78602. Removed 78601 and added 78603.

Reason: Provisions in accordance with 78601 is out of date; 78602 and 78603 current.

Effect: None.



### **7.5.2 Drawing 82740 to Revision 2 – Peg Step Assembly**

Change: Material for cap (item 06) changed from 321 stainless steel to 304 stainless steel.

Reason: 304 material is easier to procure than 321.

Effect: Cap is non-structural.

Change: Powder coating added as alternate finish.

Reason: Powder coating provides for better resistance to mechanical damage than paint, which in turn provides for better corrosion resistance.

Effect: The part has improved corrosion resistance properties over the approved configuration.

Change: Grip paint on step changed to adhesive grip tape.

Reason: Simplifies application, removes handling of hazardous chemicals to apply paint.

Effect: None. Same grip tape is used on existing approved cabin steps.

### **7.6 Document Control List DCL827-3 – Fixed Cabin Step Installation**

ICA827.92 to Revision 4 addressed in section 6.0 above. Requires TCCA acceptance.

#### **7.6.1 Drawing 82705 to Revision 2 – Long Cabin Step Installation Drawing 82751 to Revision 1 – Long Commuter Cabin Step Installation**

Change: Note 3 updated to include reference to drawing 94001 for extra large basket installation.

Reason: This installation is not compatible with the extra large basket installation.

Effect: None.

#### **7.6.2 Drawing 82706 to Revision 2 – Short Cabin Step Installation**

Change: Add extra short configuration.

Reason: A customer in New Zealand is selling fiberglass pods, with local and Canadian STCs, and they require a cabin step that is compatible with the pod, and have approached Aero Design to use a modified version of the short step. The pod sits further forward than the largest Aero Design cargo basket, which means the pod will interfere with the current short step. The step is shortened to pick up on a farther forward float provision hole in the skid tube. Construction and attachment remains the same as the approved short step.

Effect: Weight and balance information provided; see drawing 82719 for fabrication.

**7.6.3      Drawing 82770 to Revision 1 – Short Cabin Step Installation, Dart Conversion**  
**Drawing 82771 to Revision 1 – Long Cabin Step Installation, Dart Conversion**  
**Drawing 82772 to Revision 1 – Short Cabin Step Installation, Dart Conversion, Old Profile**  
**Drawing 82773 to Revision 1 – Long Cabin Step Installation, Dart Conversion, Old Profile**

Change: Note 1 updated to reference ICA827.92

Reason: Original note 1 only referenced the existing maintenance documents. TCCA accepted ICA 827.92 Rev. 3 included Dart Step Conversions.

Effect: None.

Change: 82771 and 82773 only: Note 2 updated to include reference to drawing 94001 for extra large basket installation.

Reason: This installation is not compatible with the extra large basket installation.

Effect: None.

**7.7      Document Control List DCL827-13 – Fixed Cabin Steps Fabrication**

**7.7.1      Drawing 82715 to Revision 2 – Short Step Assembly**  
**Drawing 82717 to Revision 1 – Long/Full Length Step Assembly**  
**Drawing 82718 to Revision 2 – Commuter Step Assembly**

Change: 82715 only: Add option to turn centre section of bushing to smaller diameter.

Reason: It is easier to install the bushing prior to welding when it is not dragging on the surface of the hole over the length of the bushing.

Effect: Bushing is loaded vertically at the ends where the step bracket is attached, which is full diameter. The centre section of the bushing does not support loads on the step.

Change: 82715 and 82717 only: Powder coating added as alternate finish.

Reason: Powder coating provides for better resistance to mechanical damage than paint, which in turn provides for better corrosion resistance.

Effect: The part has improved corrosion resistance properties over the approved configuration.

Change: 82718 only: Paint added as alternate finish.

Reason: Standardization with 82715 and 82717. Some operators require custom colours that are not feasible to be powder coated.

Effect: None.

Change: End details added.

Reason: The original configuration required the aft end cap to be placed inside the step extrusion flush with the end and butt welded all around the edges, which was difficult



to support the cap before the initial tack welds could be completed to hold the cap in place. The revised configuration cuts the end of the extrusion to the inside of the top surface, leaving a lip to support the cap, and the cap is enlarged to sit on the end of the extrusion. The cap sitting on the end allows a corner bevel weld providing better weld penetration than the original butt weld.

The original forward end required a bevel weld around the cone on the bottom side of the top wall of the extrusion. This weld could not be effectively ground flush (for aesthetics) because most of the weld would be ground off. The revised configuration cuts the top surface of the extrusion back to allow a bevel weld on top of the cone which can be shaped flush without penetrating through the weld.

Effect: Caps are non-structural, better weld penetration.

#### **7.7.2 Drawing 82719 Revision 0 (new) – Extra Short Step Assembly**

Change: New drawing.

Reason: See drawing 82706 to Rev. 2.

Effect: Construction is identical to approved short step, except 5.81" shorter. Shorter length decreases bending moment on the step between attachments, making the shorter step more rigid. TCCA flight test did not indicate any flutter or vibration related to the short step installation.

#### **7.7.3 Drawing 82733 to Revision 2 – Short Step Parts Fabrication**

Change: Centre support radius (0.25") and upper radius (0.28") increased to 0.31"

Reason: Chatter marks were caused by smaller tooling required in the corners, increased size allows larger, more rigid tools to be used.

Effect: Larger radius allows more material to remain, strength increased over original.

#### **7.7.4 Drawing 82734 to Revision 1 – Cabin Step Parts Fabrication**

Change: Cap (03) profile updated.

Reason: See drawing 82715 to Rev. 2.

Effect: None.

Change: Flat patterns for channel (02) and angle (05) added

Reason: Parts are laser cut, flat patterns were not available.

Effect: None.

#### **7.7.5 Drawing 82760 to Revision 1 – Commuter Step Assembly**

Change: Welding symbols added.

Reason: Weld locations were omitted on original drawing.

Effect: None.

Change: Paint added as alternate finish.  
Reason: Standardization with other steps. Some operators require custom colours that are not feasible to be powder coated.  
Effect: None.

Change: Fasteners added.  
Reason: Fasteners are specified on installation drawing, should be included during assembly.  
Effect: None.

#### **7.7.6 Drawing 82765 to Revision 2 – Commuter Step Bracket Fabrication**

Change: Note added: Remove all burrs and break sharp edges.  
Reason: Omitted on original drawing.  
Effect: None.

Change: Cut note added.  
Reason: A cut is made to allow the bracket to tighten around the step extrusion on installation. The cut must be made after the helicoil is installed, as it is difficult to install the helicoil once the threads have been cut through.  
Effect: None.

#### **7.7.7 Drawing 82784 to Revision 1 – Cap Fabrication (Dart, old)**

Change: Radius at center support increased from 0.25 to 0.31  
Reason: Chatter marks were caused by smaller tooling required in the corners, increased size allows larger, more rigid tools to be used.  
Effect: Larger radius allows more material to remain, strength increased over original.

#### **7.7.8 Drawing 82784 to Revision 1 – Cap Fabrication (Dart, old)**

Change: Stock size changed from 2"x4" bar to 2"x2.5" bar  
Reason: Incorrect size on original drawing.  
Effect: None.



## **APPENDIX A**

### **COMPLIANCE PROGRAM**

APPLICANT: Aero Design Ltd.  
9888 A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3

DATE: 0 07 November 2008 (Original)  
REVISION No. 1 18 July 2014

CORRESPONDANCE TO:  
(If other than applicant)

MAKE: Airbus Helicopters (Eurocopter)  
MODEL: AS350 B, B1, B2, B3, BA, D; AS355 E, F, F1, F2, N, NP

REGISTRATION: All Eligible  
SERIAL No.: All Eligible





NATURE OF WORK: External Attachment Provisions Installation; Quick Release Cargo Basket Installation

TYPE CERTIFICATE DATA SHEET: H-83 issue 22 / H-87 issue 9

MODEL CERTIFICATION BASIS: FAR 27 dated 1 February 1965, including amendments 27-1 thru 27-20 (AS355 NP basis, highest of all models)

MODIFICATION CERTIFICATION BASIS: FAR 27 dated 1 February 1965, including amendments 27-1 thru 27-20 (AS355 NP basis)

Airworthiness Requirement	Change from CP Rev. 0	Subject for Compliance or Documentary Proof	Form of Substantiation	DOT	DAR	Comments
<b>Subpart B – Flight</b>						
27.29	No	Empty Weight and Corresponding C of G	Data specified on inst'n drawing			
27.251	Yes	Vibration	Flight Test	X		Transport Canada flight test PER DOT originally.
<b>Subpart C – Strength Requirements</b>						
27.301	No	Loads – Air Drag/Lift Loads	Analysis			
27.301	No	Loads – Inertia Loads	Compliance with 27.337 and 27.561			
27.303	No	Factor of Safety	Analysis			
27.305	No	Strength and Deformation	Analysis and Test			
27.307	No	Proof of Structure	Analysis and Test			
27.337(a)	No	Limit Maneuvering Load Factor – Positive	Analysis and Test			
27.561	No	Emergency Landing Conditions	N/A			Critical load factor in downward direction. Step is located below cabin
<b>Subpart D – Design and Construction</b>						
27.601	No	Design	Drawings			Design is conventional.
27.603	No	Materials	Drawings			Materials used are specified in Mil-Hdbk-5J.
27.605	No	Fabrication Methods	Drawings			Design is conventional.

Airworthiness Requirement	Change from CP Rev. 0	Subject for Compliance or Documentary Proof	Form of Substantiation	DOT	DAR	Comments
27.609	No	Protection of Structure	Drawings	}		Design is easy to inspect.
27.611	No	Inspection Provisions	Drawings			
27.613	No	Material Strength Properties and Design Values	Values used as per Mil-Hdbk-5J			
27.625	No	Fitting Factor	Analysis	X		Transport Canada flight test <i>original</i>
27.629	Yes	Flutter	Flight Test			
<b>Subpart F – Equipment</b>						
27.1387	No	Position Light System Dihedral Angles	N/A			No change from Type Approval.
27.1401	No	Anticollision Light System	N/A			No change from Type Approval.
<b>Subpart G – Operating Limitations and Information</b>						
27.1529	Yes	Instructions for Continued Airworthiness	ICA Provided	X		Installation/Removal instructions for Quick Release Steps
27.1581	Yes	Rotorcraft Flight Manual	FMS Provided	X		
<b>Canadian Airworthiness Manual Chapter 527, change 527-3, dated 3 January 1994</b>						
527.1581	Yes*	Flight Manual - General *(was not included on original CP)	Flight Manual Supplement			SI/Imperial units provided

## **APPENDIX B**

### **LIST OF CHANGED DOCUMENTS**



Number	Title	Rev (current approved)	Rev (new)	Description of change
SH09-38	Transport Canada STC	3	4	New address, changes below, remove model AS350 D1
SR02770NY	FAA STC	26/01/10	(amend)	New address, changes below
	EASA STC			New
CP827	Certification Plan - Including compliance program	0	1	Shows changes from TC accepted CP827 Rev. 0
<b>DCL827-1</b>	<b>Document Control List – Quick Release Maintenance Step Installation</b>	5	6	Changes below, new address
82701	Quick Release Maintenance Step Installation	1	2	TB (Title block updated), hardware, metric units, note 2
82702	Extended Quick Release Maintenance Step Installation	1	2	TB, hardware, metric units
FMS827.90	Flight Manual Supplement	3	4	Contact info, approval #'s on cover, change "cargo pod"
ICA827.91	Instructions for Continued Airworthiness	4	5	New address, EASA limitations, ICA refs, change "cargo pod"
<b>DCL827-2</b>	<b>Document Control List – Maintenance Peg Step Installation</b>	3	4	Changes below, new address
82707	Maintenance Peg Step Installation	1	2	TB, hardware, notes
82740	Maintenance Peg Step Assembly	1	2	TB, hardware, cap material, powder coat, grip tape
ICA827.93	Instructions for Continued Airworthiness	2	3	New address, EASA limitations, hardware, metric units
ER827.01	Engineering Report	2	2	No change
<b>DCL827-3</b>	<b>Document Control List – Fixed Cabin Step Installation</b>	6	7	Changes below, new address
82705	Long Cabin Step Installation	1	2	TB, metric units, hardware, note 3
82706	Short Cabin Step Installation	1	2	TB, metric units, hardware, extra short config
82709	Full Length Cabin Step Installation	0	1	TB, metric units, hardware
82750	Short Commuter Cabin Step Installation	0	1	TB, metric units, hardware
82751	Long Commuter Cabin Step Installation	0	1	TB, metric units, hardware, note 3
82752	Full Length Commuter Cabin Step Installation	0	1	TB, metric units, hardware
82770	Short Cabin Step Installation – Dart Conversion	0	1	TB, metric units, hardware, note 1
82771	Long Cabin Step Installation – Dart Conversion	0	1	TB, metric units, hardware, note 1 + 2
82772	Short Cabin Step Installation – Dart Conversion (old extr.)	0	1	TB, metric units, hardware, note 1
82773	Long Cabin Step Installation – Dart Conversion (old extr.)	0	1	TB, metric units, hardware, note 1 + 2
ICA827.92	Instructions for Continued Airworthiness	3	4	New address, EASA limitations, hardware, metric units

Number	Title	Rev (current approved)	Rev (new)	Description of change
<b>DCL827-11</b>	<b>Document Control List – Quick Release Maintenance Step Fabrication</b>	3	4	Changes below, new address
82716	Step Assembly	0	1	TB
82722	Step End Fabrication	0	1	TB
82711	Extended Step Assembly	0	1	TB, hardware, end cap
82720	Step Bracket Fabrication	1	2	TB, end cap
ER827.02	Engineering Report	0	0	No change
<b>DCL827-13</b>	<b>Document Control List – Fixed Cabin Step Fabrication</b>	5	6	Changes below, new address
82715	Short Cabin Step Assembly	1	2	TB, hardware, end cap, powder coat, bushing
82717	Long Cabin Step Assembly	0	1	TB, hardware, end cap, powder coat
82718	Commuter Cabin Step Assembly	1	2	TB, hardware, end cap, paint
82719	Extra Short Cabin Step Assembly	--	0	New
82723	Bracket Fabrication	1	2	TB
82733	Short Cabin Step Parts Fabrication	1	2	TB, corner rads
82734	Cabin Step Parts Fabrication	0	1	TB
82736	Commuter Cabin Step Parts Fabrication	0	1	TB
82760	Commuter Step Assembly	0	1	TB, weld symbols, hardware
82765	Bracket Fabrication	1	2	TB, notes
82780	Bracket (DART Long)	0	1	TB
82781	Cap (DART Long)	0	1	TB
82782	Bracket (DART Short)	0	1	TB, corner rads
82783	Cap (DART Short)	0	1	TB
82784	Cap (Old Extrusion, DART Short)	0	1	TB, stock size
82785	Bracket (Old Extrusion, DART Long)	0	1	TB
82786	Cap (Old Extrusion, DART Long)	0	1	TB
ER827.02	Engineering Report	0	0	No change
ER827.03	Engineering Report	1	1	No change
	Flight Test Report - Transport Canada	--	--	No change (omitted on original issue)



Aero Design Ltd.  
604-483-AERO (2376)

9888A Malaspina Road  
Powell River, BC, Canada, V8A 0G3

13 April 2015

Transport Canada  
Aircraft Certification Division  
11<sup>th</sup> Floor, Canada Place  
9700 Jasper Avenue  
Edmonton, Alberta  
T5J 4E6

Attn: Jack Staal

Your File :  
Our File : 827

Re: Airbus Helicopters AS350/AS355 Cabin Steps – FAA STC Amendment

Jack,

Please find attached the following documents in support of application for revision to  
FAA STC SR02770NY:

Modification Approval Request Application Form		
FAA STC Application Form 8110-12		
FAA STC – New address and transfer endorsed	SR02770NY	Original
Letter authorizing transfer endorsement of STC		
Transport Canada STC	SH09-38	Issue 4
Certification Plan	CP827	Rev. 1
Document Control List (Quick Release	DCL827-1	Rev. 6
Maintenance Steps Installation)		
Quick Release Maintenance Step Installation	82701	Rev. 2
Extended Quick Release Maintenance Step	82702	Rev. 2
Installation		
Flight Manual Supplement	FMS827.90	Rev. 4
Instructions for Continued Airworthiness	ICA827.91	Rev. 5
MSI 53 Review of ICA827.91 Rev. 5		
Document Control List (Quick Release	DCL827-11	Rev. 4
Maintenance Steps Fabrication)		
Step Assembly	82716	Rev. 1
Step Bracket Fabrication	82722	Rev. 1
Extended Step Assembly	82711	Rev. 1
Step Bracket Fabrication	82720	Rev. 2
Document Control List (Maintenance Peg Step	DCL827-2	Rev. 4
Installation and Fabrication)		
Maintenance Peg Step Installation	82707	Rev. 2
Instructions for Continued Airworthiness	ICA827.93	Rev. 3
MSI 53 Review of ICA827.93 Rev. 3		
Step Assembly	82740	Rev. 2





Document Control List (Fixed Steps Installation)	DCL827-3	Rev. 7
Long Cabin Step Installation	82705	Rev. 2
Short Cabin Step Installation	82706	Rev. 2
Full Length Cabin Step Installation	82709	Rev. 1
Short Commuter Step Installation	82750	Rev. 1
Long Commuter Step Installation	82751	Rev. 1
Full Length Commuter Step Installation	82752	Rev. 1
Short Cabin Step Installation – Dart Conversion	82770	Rev. 1
Long Cabin Step Installation – Dart Conversion	82771	Rev. 1
Short Cabin Step Installation – Dart Conversion	82772	Rev. 1
Long Cabin Step Installation – Dart Conversion	82773	Rev. 1
Instructions for Continued Airworthiness	ICA827.92	Rev. 4
MSI 53 Review of ICA827.92 Rev. 4		
Document Control List (Fixed Steps Fabrication)	DCL827-13	Rev. 6
Short Cabin Step Assembly	82715	Rev. 2
Long Cabin Step Assembly	82717	Rev. 1
Commuter Cabin Step Assembly	82718	Rev. 2
Extra Short Cabin Step Assembly	82719	Rev. 0
Bracket Fabrication	82723	Rev. 2
Short Cabin Step Parts Fabrication	82733	Rev. 2
Cabin Step Parts Fabrication	82734	Rev. 1
Commuter Cabin Step Parts Fabrication	82736	Rev. 1
Commuter Step Assembly	82760	Rev. 1
Bracket Fabrication	82765	Rev. 2
Bracket (Dart Long)	82780	Rev. 1
Cap (Dart Long)	82781	Rev. 1
Bracket (Dart Short)	82782	Rev. 1
Cap (Dart Short)	82783	Rev. 1
Cap (Old Profile, Dart Short)	82784	Rev. 1
Bracket (Old Profile, Dart Long)	82785	Rev. 1
Cap (Old Profile, Dart Long)	82786	Rev. 1

A CD with the above data is included for submission to the FAA.

Regards,

Jeff Clarke, P.Tech.(Eng.)  
Vice President

Encl.





**Aero Design Ltd.**  
9888A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3

Tel: 604.483.2376  
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[www.aerodesign.ca](http://www.aerodesign.ca)

13 April 2015

Department of Transportation  
Federal Aviation Administration  
New York Aircraft Certification Office ANE-170  
1600 Stewart Avenue, Suite 410  
Westbury, NY, 11590  
USA

Attention: Mr. Ray Reinhardt, Program Manager.

Re: FAA SR02770NY, Airbus Helicopters AS350/AS355 Step Installations

Please find enclosed original US STC SR02770NY, endorsed on the back with the new address for Aero Design Ltd. Mr. Clarke is vice president of Aero Design Ltd. and as such is authorized to make this endorsement on behalf of the company.

If you need anything further please feel free to contact me.

Regards,

Jason Rekve  
President

Encl.

CC: Jack Staal, Transport Canada



U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

FORM APPROVED  
OMB No. 2120-0018  
EXP DATE: 11/30/2013

APPLICATION FOR TYPE CERTIFICATE, PRODUCTION CERTIFICATE, OR SUPPLEMENTAL TYPE  
CERTIFICATE

1. Name Of Applicant Aero Design Ltd.		2. Application made for : <input type="checkbox"/> Type Certificate <input type="checkbox"/> Production Certificate <input type="checkbox"/> Supplemental Type Certificate <input type="checkbox"/> Amended Type Certificate <input checked="" type="checkbox"/> Amended Supplemental Type Certificate		3. Product Involved <input checked="" type="checkbox"/> Aircraft <input type="checkbox"/> Engine <input type="checkbox"/> Propeller	
4. Address 9888A Malaspina Road		b. City      State Powell River      BC, Canada		c. Zip Code V8A 0G3	
5. TYPE CERTIFICATE (Complete item 5a below)					
a. Model designation(s) (All models listed are to be completely described in the required technical data, including drawings representing the design, material, specifications, construction, and performance of the aircraft, aircraft engine, propeller which is the subject of this application.)					
6. PRODUCTION CERTIFICATE (Complete items 6a-c below. Submit with this form, in manual form, one copy of quality control data or changes thereto covering new products, as required by applicable FAR.)					
a. Factory address (if different from above)		b. Application is for <input type="checkbox"/> New production certificate <input type="checkbox"/> Additions to production Certificate (Give P.C. No.)		P.C. No.	
c. Applicant is holder of or a licensee under a Type Certificate or a Supplemental Type Certificate (Attach evidence of licensing agreement and give certificate number)				T.C./S.T.C. No.	
7. SUPPLEMENTAL TYPE CERTIFICATE (Complete items 7a-d below)					
a. Make and model designation of product to be modified Airbus Helicopters AS350 B, B1, B2, B3, BA, D; AS355 E, F, F1, F2, N, NP					
b. Description of modification Amend STC SR02770NY - Installation of quick release maintenance step; installation of maintenance peg step; installation of fixed cabin step. Amendment is to update configurations and update address of holder. Refer to Certification Plan CP827 Rev. 1 for a complete description of each configuration.					
c. Will data be available for sale or release to other persons? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		d. Will parts be manufactured for sale? (Ref. FAR 21.303) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
8. CERTIFICATION - I certify that the above statements are true. <input checked="" type="checkbox"/>					
Signature of certifying official 		Title Vice President		Date 13 April 2014	



Transport Canada Transports Canada

## DESIGN CHANGE APPROVAL APPLICATION

## DEMANDE D'APPROBATION D'UNE MODIFICATION DE LA CONCEPTION

Legal name and address of applicant Nom et adresse légal du demandeur		Legal name and address of prospective holder Nom et adresse légal du titulaire éventuel		Name and address for billing purposes (if different than applicant) Nom et adresse aux fins de facturation (si différent du demandeur)	
Aero Design Ltd. 9888A Malaspina Road Powell River, BC, Canada V8A 0G3		Aero Design Ltd. 9888A Malaspina Road Powell River, BC, Canada V8A 0G3			
Identification of aeronautical product / Identification du produit aéronautique					
Make / Marque Airbus Helicopters		Model / Modèle AS350, AS355 (all)		Registration / Immatriculation All eligible	
				Serial No. / N° du série All eligible	
				Part No. / N° de la pièce	
Request for (check appropriate box) / Objet de la demande (Cochez les carrés selon le cas)				Type Design Examination by Foreign Authority Examen de la définition de type par autorité étrangère	
<input type="checkbox"/> STC CTS <input type="checkbox"/> STC (single serial number) CTS (numéro de série simple) <input type="checkbox"/> STC (multiple serial numbers) CTS (numéros de série multiples) <input type="checkbox"/> Type Certificate Revision Revision de certificat de type <input checked="" type="checkbox"/> Revision Révision				<input type="checkbox"/> Repair Design Approval (RDA) Approbation de la conception de réparation (ACR) <input type="checkbox"/> Repair Design Approval - Process Repair ACR - Processus de réparation <input type="checkbox"/> Part Design Approval (PDA) Approbation de la conception de pièce (ACP)	
No. SH09-38 N°				Current Issue 4 Édition active	
<input type="checkbox"/> Restricted Category Catégorie restreinte				Type of Operation Type d'opération	
Title and brief description of modification, repair or replacement part, including effects of changes (use additional pages if necessary). Refer to CAR 521.155(b)(i) for details. Titre et brève description de la modification, de la réparation ou de la pièce de rechange, y compris les effets des changements (utiliser des feuilles supplémentaires si nécessaire). Référez-vous à RAC 521.155(b)(i) pour des détails. Installation of quick release maintenance step; installation of maintenance peg step; installation of fixed cabin step. Refer to Certification Plan CP827 Rev. 1 for a complete description of each configuration.					
Applicable Type Certificate (TC) / Certificat de type (CT) pertinent					
TC No. / N° de CT H-83 / H-87 (H9EU / H11EU)		Issue No. / N° de l'édition 22 / 9 (23 / 11)		Identify State of Design / Identifier l'état de conception EASA	
The applicant is responsible for the control of product manufacture / Le demandeur est responsable du contrôle de la fabrication du produit					
<input checked="" type="checkbox"/> Yes Oui					
<input type="checkbox"/> No Non					
If no, identify who is responsible Si non, identifier qui est responsable					
Documentation to be submitted Documentation à soumettre				Applicant Demandeur	
				Submitted Soumis	
				Yes Oui	
				No Non	
Proposed certification basis Proposition de base de certification					
Certification plan in accordance with CAR 521.155(d) Plan de certification selon RAC 521.155(d)					
Applicant's remarks / Remarques du demandeur Amendment is to update configurations and update address of holder.					
I hereby certify that the information contained herein is correct and complete. I agree to pay charges as prescribed in Part 1, Subpart 4 of the CARs (CAR 104-Charges). Je certifie que les renseignements figurant ci-dessus sont exacts et complets. Je m'engage à payer les redevances prescrites à la sous-partie 4 de la partie I du RAC (sous-partie 104 du RAC - Redevances).					
JEFF CLARKE Name and Signature of Applicant / Nom et signature du demandeur		VICE PRESIDENT Title / Poste		2015-04-13 Date (yyyy-mm-dd) / Date (aaaa-mm-jj)	





Department of Transport

# Supplemental Type Certificate

This approval is issued to:

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, British Columbia  
Canada V8A 0G3

**Number:** SH09-38

**Issue No.:** 4

**Approval Date:** August 07, 2009

**Issue Date:** February 10, 2015

**Responsible Office:**

Prairie and Northern

**Aircraft/Engine Type or Model:**

Airbus Helicopters AS 350 B, AS 350 B1, AS 350 B2, AS 350 B3, AS 350 BA, AS 350 D  
Airbus Helicopters AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N, AS 355 NP

**Canadian Type Certificate or Equivalent:**

H-83 (Airbus Helicopters AS 350 series)  
H-87 (Airbus Helicopters AS355 series)

**Description of Type Design Change:**

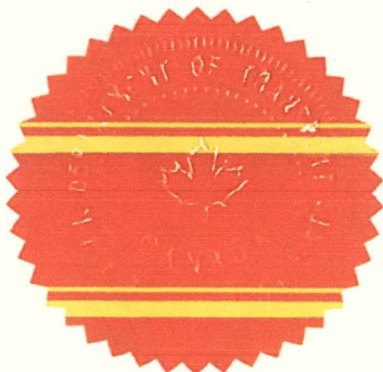
Installation of Quick Release Maintenance Step; Installation of Maintenance Peg Step; Installation of Fixed Cabin Step

**Installation/Operating Data,  
Required Equipment and Limitations:**

**Configuration A - Quick Release Maintenance Step:**

Installation of the External Attachment Provisions in accordance with STC SH08-16 (Configuration A) is required for installation of the Quick Release Maintenance Step. Installation of the Quick Release Maintenance Step to be completed in accordance with Transport Canada approved, Aero Design Ltd. Document Control List, DCL827-1, Revision 6, dated 31 July 2014, or later approved revision.

...continued



**Conditions:** This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.

F.J.B. Wright  
For Minister of Transport





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NOTE: THIS ADDENDUM SHALL REMAIN PART OF THE CERTIFICATE REFERRED TO THEREIN.

---

External Attachment Provisions may remain installed if the Step Installation is removed.

Transport Canada approved, Aero Design Ltd. Flight Manual Supplement FMS827.90, Revision 4, dated 31 July 2014, or later approved revision is required with this installation.

Transport Canada accepted, Aero Design Ltd. Instructions for Continued Airworthiness ICA827.91, Revision 5, dated 31 July 2014, or later accepted revision is required with this installation.

**Configuration B – Maintenance Peg Step:**

Installation of the Maintenance Peg Step to be completed in accordance with Transport Canada approved, Aero Design Ltd. Document Control List, DCL827-2, Revision 4, dated 31 July 2014, or later approved revision.

Transport Canada accepted, Aero Design Ltd. Instructions for Continued Airworthiness ICA827.93, Revision 3, dated 31 July 2014, or later accepted revision is required with this installation.

**Configuration C – Fixed Cabin Step:**

Installation of the Fixed Cabin Step to be completed in accordance with Transport Canada approved, Aero Design Ltd. Document Control List, DCL827-3, Revision 7, dated 31 July 2014, or later approved revision.

Transport Canada accepted, Aero Design Ltd. Instructions for Continued Airworthiness ICA827.92, Revision 4, dated 31 July 2014, or later accepted revision is required with this installation.

**Data Pertinent to All Configurations:**

Any combination of Configurations A, B, or C may be simultaneously installed.

**Basis of Certification:**


Basis of certification remains as specified in the applicable Type Certificate Data Sheets.

– End –

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
82701	Quick Release Maintenance Step Installation	2
82702	Extended Quick Release Maintenance Step Installation	2
FMS827.90	Flight Manual Supplement	4
ICA827.91	Instructions for Continued Airworthiness	5
<b>FABRICATION DOCUMENTS</b>		
DCL827-11	Document Control List for Quick Release Maintenance Step Fabrication	4

## APPROVAL:

	Transport Canada	Transports Canada
<b>AIRCRAFT CERTIFICATION DIVISION</b>		
<b>APPROVED</b>		
By <u><i>[Signature]</i></u>		
Appr'l No. <u>5404038</u>		
Appr'l Date <u>2009-08-07</u>		
Issue No. <u>4</u>		
Issue Date <u>2015-02-10</u>		
YY-MM-DD		

## ORIGINAL DATE:

31 October 2008

## REVISION DATE:

31 July 2014



## Aero Design Ltd.

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Tel: 604.483.2376 www.aerodesign.ca

SHEET 1 OF 1

**Airbus Helicopters (Eurocopter)**  
**AS350 & AS355 Series**  
**Quick Release Maintenance Steps**  
**Installation**

# DCL827-1



Rev.

# 6

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>FABRICATION DOCUMENTS</b>		
82716	Step Assembly	1
82722	Step Bracket Fabrication	1
82711	Extended Step Assembly	1
82720	Step Bracket Fabrication	2
<b>ENGINEERING DOCUMENTS</b>		
ER827.02	Engineering Report	0

**APPROVAL:**

	Transport Canada	Transports Canada
<b>AIRCRAFT CERTIFICATION DIVISION</b>		
<b>APPROVED</b>		
By		
Appr'l No.	41111/20	
Appr'l Date	2009-08-07	
Issue No.	4	
Issue Date	2015-02-10	
YY - MM - DD		

ORIGINAL DATE:

31 October 2008

REVISION DATE:

31 July 2014



**Aero Design Ltd.**

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Powell River, BC, Canada, V8A 0G3  
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SHEET 1 OF 1

**Airbus Helicopters (Eurocopter)**  
**AS350 & AS355 Series**  
**Quick Release Maintenance Steps**  
**Fabrication**

**DCL827-11**


Rev.

**4**

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
82707	Maintenance Peg Step Installation	2
ICA827.93	Instructions for Continued Airworthiness	3
<b>FABRICATION DOCUMENTS</b>		
82740	Peg Step Fabrication	2
<b>ENGINEERING DOCUMENTS</b>		
ER827.01	Engineering Report	2

**APPROVAL:**

 Transport Canada    Transports Canada
<b>AIRCRAFT CERTIFICATION DIVISION</b>
<b>APPROVED</b>
By <u><i>[Signature]</i></u>
Appr'l No. <u>2009-08-07</u>
Appr'l Date <u>2009-08-07</u>
Issue No. <u>4</u>
Issue Date <u>2015-02-10</u>
<small>YY-MM-DD</small>

ORIGINAL DATE:  
31 October 2008  
REVISION DATE:  
31 July 2014



**Aero Design Ltd.**

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SHEET 1 OF 1

**Airbus Helicopters (Eurocopter)**  
**AS350 & AS355 Series**  
**Maintenance Peg Step**  
**Installation**

**DCL827-2**

Rev.



**4**



# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
82705	Long Cabin Step Installation	2
82706	Short Cabin Step Installation	2
82709	Full Length Cabin Step Installation	1
82750	Short Commuter Cabin Step Installation	1
82751	Long Commuter Cabin Step Installation	1
82752	Full Length Commuter Cabin Step Installation	1
82770	Short Cabin Step Installation – DART Conversion	1
82771	Long Cabin Step Installation – DART Conversion	1
82772	Short Cabin Step Installation – DART Conversion (Old Profile)	1
82773	Long Cabin Step Installation – DART Conversion (Old Profile)	1
ICA827.92	Instructions for Continued Airworthiness	4
<b>FABRICATION DOCUMENTS</b>		
DCL827-13	Document Control List for Fixed Cabin Steps Fabrication	6

## APPROVAL:

	Transport Canada	Transports Canada
<b>AIRCRAFT CERTIFICATION DIVISION</b>		
<b>APPROVED</b>		
By 		
Appr'l No. <u>5409-38</u>		
Appr'l Date <u>2009-08-07</u>		
Issue No. <u>4</u>		
Issue Date <u>2015-02-10</u>		
YY - MM - DD		

## ORIGINAL DATE:

31 October 2008

## REVISION DATE:

31 July 2014



## Aero Design Ltd.

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SHEET 1 OF 1

**Airbus Helicopters (Eurocopter)**  
**AS350 & AS355 Series**  
**Fixed Cabin Steps**  
**Installation**

Rev.

**DCL827-3**

**7**

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>FABRICATION DOCUMENTS</b>		
82715	Short Cabin Step Assembly	2
82717	Long Cabin Step Assembly	1
82718	Commuter Cabin Step Assembly	2
82719	Extra Short Cabin Step Assembly	0
82723	Bracket Fabrication	2
82733	Short Cabin Step Parts Fabrication	2
82734	Cabin Step Parts Fabrication	1
82736	Commuter Cabin Step Parts Fabrication	1
82760	Commuter Step Assembly	1
82765	Bracket Fabrication	2
82780	Bracket (DART Long)	1
82781	Cap (DART Long)	1
82782	Bracket (DART Short)	1
82783	Cap (DART Short)	1
82784	Cap (Old Profile, DART Short)	1
82785	Bracket (Old Profile, DART Long)	1
82786	Cap (Old Profile, DART Long)	1
<b>ENGINEERING DOCUMENTS</b>		
ER827.02	Engineering Report	0
ER827.03	Engineering Report Flight Test Report – Transport Canada	1

## APPROVAL:

	Transport Canada	Transports Canada
AIRCRAFT CERTIFICATION DIVISION		
<b>APPROVED</b>		
By <u>[Signature]</u>		
Appr'l No. <u>21044-38</u>		
Appr'l Date <u>2009-08-07</u>		
Issue No. <u>4</u>		
Issue Date <u>2015-02-10</u>		
YY - MM - DD		

ORIGINAL DATE:

31 October 2008

REVISION DATE:

31 July 2014



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SHEET 1 OF 1

**Airbus Helicopters (Eurocopter)**  
**AS350 & AS355 Series**  
**Fixed Cabin Steps**  
**Fabrication**

Rev.

**DCL827-13**

**6**

Aero Design Ltd.



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FMS827.90

## AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES



### FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of the AERO DESIGN QUICK RELEASE MAINTENANCE STEP

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

Sections I, II, III, IV, and V of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section II, Limitations, is mandatory. Section VI and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Eurocopter AS350 and AS355 Series Helicopters when fitted with the Quick Release Maintenance Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement refer to the Approved Flight Manual and other approved Flight Manual Supplements.

### Table of Contents

I	General	3
II	Limitations	3
III	Emergency ProCedures	3
IV	Normal Procedures	3
V	Performance	3
VI	Installation / removal instructions	4
VII	Weight and Balance	6

### Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	By
0	4 Aug 2009	None		
1	5 Jan 2010	1, 2, 4-8		
2	16 June 2010	1, 2, 4-7		
3	04 Dec 2012	all		
4	31 July 2014	1, 2, 6-9		



## **I GENERAL**

No change from basic Approved Flight Manual.

## **II LIMITATIONS**

No change from basic Approved Flight Manual.

## **III EMERGENCY PROCEDURES**

No change from basic Approved Flight Manual.

## **IV NORMAL PROCEDURES**

1. Pre-flight inspections:
  - a) Ensure the step is locked in position on the beams. Pull up on the forward end of the step to check.

## **V PERFORMANCE**

No change from basic Approved Flight Manual.

## VI INSTALLATION / REMOVAL INSTRUCTIONS

The attachment provisions are installed in accordance with Supplemental Type Certificate SH08-16. The maintenance step is installed in accordance with drawing 82701. The extended maintenance step is installed in accordance with drawing 82702.

There are three configurations approved for flight:

- 1) Step in the upper (normal) position or lower (stowed) position.
- 2) Step in the lower (stowed) position with a cargo basket installed.
- 3) Step removed, leaving the attachment provisions in place.

Logbook entry indicating installation or removal of step and which weight and balance amendment is in effect is required when step is installed or removed.

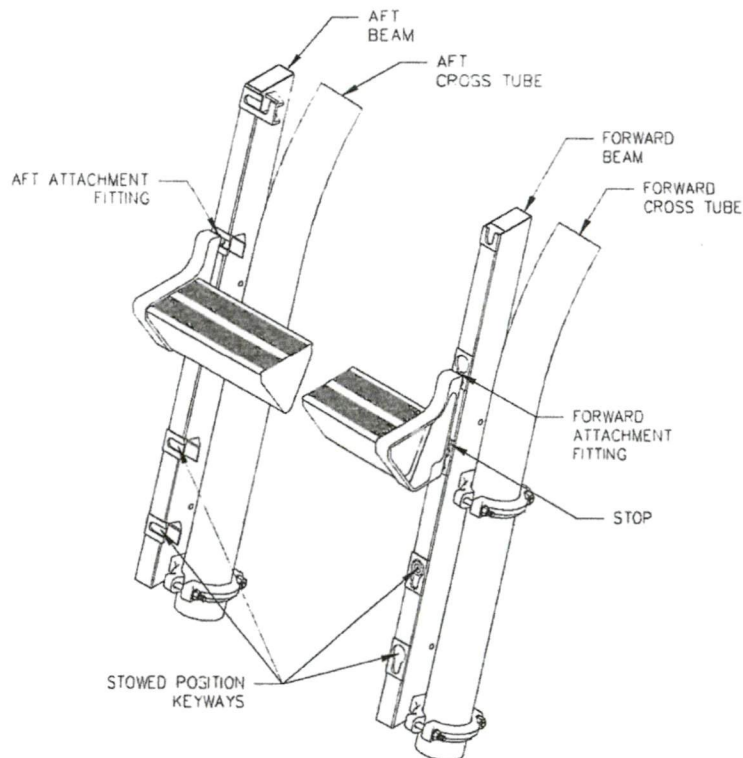


Figure 1 – Step Attachment Features

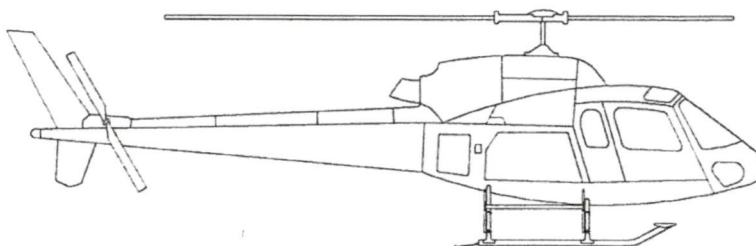
1. Installation - Refer to Figure 1.
  - a) Slide step aft attachments fittings into keyways in aft beam.
  - b) At forward end of step, lift step until lower attachment fitting hits stop.
  - c) Push step attachment fittings into keyways and slide down until locked.
2. Removal - Refer to Figure 1.
  - a) Pull knob on forward beam that is retaining step and lift step until forward attachment fittings are free of keyways.
  - b) Slide step forward until free of keyways on aft beam.

## VII WEIGHT AND BALANCE

### 1. MAINTENANCE STEP 82701.

The following weight and balance is for the quick release maintenance step installed in accordance with drawing 82701. Upper (normal) and lower (stowed) positions are provided, either position is approved for flight.

Weight and balance is for Maintenance Step only. Refer to Flight Manual Supplement FMS764.91 for weight and balance for mounting provisions.



Quick Release Maintenance Step

#### Standard Units

Provisions Configuration	Description	Standard Units				
		Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
<i>Right Hand</i>						
High	Step	4.0	136.0	544.0	37.6	150.4
	Step (stowed)	4.0	136.0	544.0	40.3	161.2
Low	Step	4.0	136.0	544.0	38.3	153.2
	Step (stowed)	4.0	136.0	544.0	41.1	164.4
Cargo Pod	Step	4.0	136.0	544.0	40.3	161.2
Compatible	Step (stowed)	4.0	136.0	544.0	43.1	172.4
<i>Left Hand</i>						
High	Step	4.0	136.0	544.0	-37.6	-150.4
	Step (stowed)	4.0	136.0	544.0	-40.3	-161.2
Low	Step	4.0	136.0	544.0	-38.3	-153.2
	Step (stowed)	4.0	136.0	544.0	-41.1	-164.4
Cargo Pod	Step	4.0	136.0	544.0	-40.3	-161.2
Compatible	Step (stowed)	4.0	136.0	544.0	-43.1	-172.4



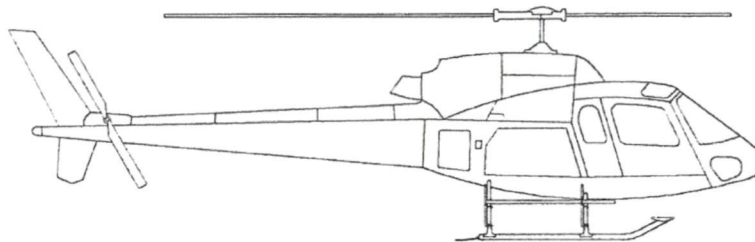
## Metric Units

Provisions Configuration	Description	Metric Units				
		Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		Kg	mm	mm-Kg	mm	mm-Kg
<i>Right Hand</i>						
High	Step	1.8	3454	6252	955	1729
	Step (stowed)	1.8	3454	6252	1024	1853
Low	Step	1.8	3454	6252	973	1751
	Step (stowed)	1.8	3454	6252	1044	1890
Cargo Pod	Step	1.8	3454	6252	1024	1853
Compatible	Step (stowed)	1.8	3454	6252	1095	1981
<i>Left Hand</i>						
High	Step	1.8	3454	6252	-955	-1729
	Step (stowed)	1.8	3454	6252	-1024	-1853
Low	Step	1.8	3454	6252	-973	-1751
	Step (stowed)	1.8	3454	6252	-1044	-1890
Cargo Pod	Step	1.8	3454	6252	-1024	-1853
Compatible	Step (stowed)	1.8	3454	6252	-1095	-1981

## 2. EXTENDED MAINTENANCE STEP 82702.

The following weight and balance is for the extended quick release maintenance step installed in accordance with drawing 82702. Upper (normal) and lower (stowed) positions are provided, either position is approved for flight.

Weight and balance is for Maintenance Step only. Refer to Flight Manual Supplement FMS764.91 for weight and balance for mounting provisions.



Extended Quick Release Maintenance Step

### Standard Units

Provisions Configuration	Description	Standard Units				
		Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
<i>Right Hand</i>						
High	Step	9.0	126.5	1138.5	37.2	334.8
	Step (stowed)	9.0	126.5	1138.5	39.9	359.1
Low	Step	9.0	126.5	1138.5	37.9	341.1
	Step (stowed)	9.0	126.5	1138.5	40.7	366.3
Cargo Pod	Step	9.0	126.5	1138.5	39.9	359.1
Compatible	Step (stowed)	9.0	126.5	1138.5	42.7	384.3
<i>Left Hand</i>						
High	Step	9.0	126.5	1138.5	-37.2	-334.8
	Step (stowed)	9.0	126.5	1138.5	-39.9	-359.1
Low	Step	9.0	126.5	1138.5	-37.9	-341.1
	Step (stowed)	9.0	126.5	1138.5	-40.7	-366.3
Cargo Pod	Step	9.0	126.5	1138.5	-39.9	-359.1
Compatible	Step (stowed)	9.0	126.5	1138.5	-42.7	-384.3

## Metric Units

Provisions Configuration	Description	Weight		Longitudinal		Lateral	
		Kg		arm mm	moment mm-Kg	arm mm	moment mm-Kg
<i>Right Hand</i>							
High	Step	4.1	3213	13085	945	3848	
	Step (stowed)	4.1	3213	13085	1013	4127	
Low	Step	4.1	3213	13085	963	3920	
	Step (stowed)	4.1	3213	13085	1034	4210	
Cargo Pod Compatible	Step	4.1	3213	13085	1013	4127	
	Step (stowed)	4.1	3213	13085	1085	4417	
<i>Left Hand</i>							
High	Step	4.1	3213	13085	-945	-3848	
	Step (stowed)	4.1	3213	13085	-1013	-4127	
Low	Step	4.1	3213	13085	-963	-3920	
	Step (stowed)	4.1	3213	13085	-1034	-4210	
Cargo Pod Compatible	Step	4.1	3213	13085	-1013	-4127	
	Step (stowed)	4.1	3213	13085	-1085	-4417	

# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

## APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

### BLOCK 1

Name of the applicant for the design change approval:	Aero Design Ltd.
Description of the design change:	Installation of Quick Release Maintenance Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
Certification Basis of design change and revision date:	FAR 27, Amendment 27-20
CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:	Section 0-3 of Supplemental ICA (ICA 827.91)
CAR Standard 513.05 (1) (g) (iv): Installation Instructions:	Installation Drawing 82701, 82702

### BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.91, Rev. 5)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5



**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b> <b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A

**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

<b>Regulatory Standard Reference Column 1</b>	<b>Design Approval Holder (DAH) ICA Reference Column 2</b>	<b>Applicant Means of Compliance Supplemental ICA Requirements Column 3</b>
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 and 25-2
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-3
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-4
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

## BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

<p><b>A527.4 AWL - Separate Section 1</b>          The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."</p>	<p>ICA ref: Eurocopter AS350/AS355          Maintenance Manual, Chapter 4</p>	<p>Supplemental ICA ref: Chapter 4</p>
--	---	--

## BLOCK 4 – Applicant Statement of Compliance

<p>The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.</p>	
<p>Applicants Signature: <u>Jeff Clarke</u></p>	<p>Date: <u>01 August 2014</u></p>
<p>Applicants Name: <u>Jeff Clarke, Vice President</u></p>	

## BLOCK 5 – Minister's Statement of Acceptability

<p>The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.</p>			
<p>Reviewer's Name: <u>Jack Staal</u></p>	<p>Phone # <u>780-495-5227</u></p>	<p>Email: <u>ja:k.staal@tc.gc.ca</u></p>	<p>Mail Routing Symbol: <u>RAX1</u></p>
<p>Signature: <u>Jack Staal</u></p>	<p>Date: <u>10 February 2015</u></p>	<p>NAPA Number: <u>C-14-0821</u></p>	



# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

## APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

### BLOCK 1

Name of the applicant for the design change approval:	Aero Design Ltd.
Description of the design change:	Installation of Maintenance Peg Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
Certification Basis of design change and revision date:	FAR 27, Amendment 27-20
CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:	Section 0-3 of Supplemental ICA (ICA 827.93)
CAR Standard 513.05 (1) (g) (iv): Installation Instructions:	Installation Drawing 82707

### BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.93, Rev. 3)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5



**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A

**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
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<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-3
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-4
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

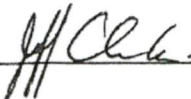
## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### BLOCK 3

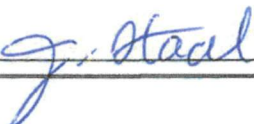
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<b>A527.4 AWL - Separate Section 1</b> The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Section 4
---	--	---------------------------------

### BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.	
Applicants Signature: <u></u>	Date: <u>01 August 2014</u>
Applicants Name: <u>Jeff Clarke, Vice President</u>	

### BLOCK 5 – Minister's Statement of Acceptability

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.			
Reviewer's Name: <u>Jack Staal</u>	Phone # <u>780-425-5227</u>	Email: <u>jack.staal@tc.gc.ca</u>	Mail Routing Symbol: <u>RAXI</u>
Signature: <u></u>	Date: <u>10 Feb 2015</u>	NAPA Number: <u>C-14-0821</u>	

Rev 3.



**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

**APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527**

**BLOCK 1**

<b>Name of the applicant for the design change approval:</b>	Aero Design Ltd.
<b>Description of the design change:</b>	Installation of Fixed Cabin Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
<b>Certification Basis of design change and revision date:</b>	FAR 27, Amendment 27-20
<b>CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:</b>	Section 0-3 of Supplemental ICA (ICA 827.92)
<b>CAR Standard 513.05 (1) (g) (iv): Installation Instructions:</b>	Installation Drawing 82705, 82706, 82709, 82750, 82751, 82752, 82770, 82771, 82772, 82773

**BLOCK 2**

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
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<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances,	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5



**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
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**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

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<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-8
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-9
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

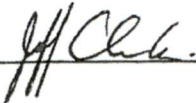
### BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

<b>A527.4 AWL - Separate Section 1</b> The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Section 4
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### BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.

Applicants Signature:  Date: 01 August 2014

Applicants Name: Jeff Clarke, Vice President

### BLOCK 5 – Minister's Statement of Acceptability

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.

Reviewer's Name: Jack Staal Phone # 780-495-5227 Email: jack.staal@tc.gc.ca Mail Routing Symbol: FAK1

Signature: \_\_\_\_\_ Date: 10 Feb 2015 NAPA Number: C-14-08-1

Rev 4

1  
 ↳ emailed Jack Re: Signature  
 12/02/2015



## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 827.91

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### AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES

### QUICK RELEASE MAINTENANCE STEPS

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

#### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Maintenance Step installed in accordance with Aero Design Ltd. Document Control List DCL827-1, Revision 6, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 5  
Date: 31 July 2014

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Aero Design Ltd.



9888A Malaspina Road, Powell River, BC, V8A 0G3  
Phone: 604-483-2376  
Fax: 604-483-2372  
[www.aerodesign.ca](http://www.aerodesign.ca)

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## RECORD OF REVISIONS

Revision Number	Issue Date	Date Inserted	By
0			Original Issue
1	23 July 2009		
2	05 January 2010		
3	28 June 2010		
4	04 Dec 2012		
5	31 July 2014		

## LIST OF EFFECTIVE PAGES

## List of Revisions

Revision 0 (Original Issue)	20 October, 2008
Revision 1	23 July, 2009
Revision 2	05 January 2010
Revision 3	28 June 2010
Revision 4	04 December 2012
Revision 5	31 July 2014

## List of Effective Pages

<u>Description</u>	<u>Page</u>	<u>Revision</u>	<u>Description</u>	<u>Page</u>	<u>Revision</u>
Cover	1	5	25-00-00	11	5
Revision Record	2	5		12	5
Table of Contents	3	0		13	5
00-00-00	4	5		14	5
	5	4			
04-00-00	6	5			
05-00-00	7	5			
	8	5			
	9	5			
25-00-00	10	5			

## NOTE

Revised text is indicated by a black vertical line. A revised page with only a vertical line next to the page number indicates that text has shifted or that non-technical correction(s) were made on that page. Insert latest revision pages; dispose of superseded pages.

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Maintenance Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Maintenance Step. Requests for a copy may be made in writing to:

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

#### *Quick Release Cargo Basket Installation:*

The Quick Release Maintenance Step must be installed in the lower (stowed) position prior to installation of the Aero Design Ltd. Cargo Baskets in accordance with STC SH08-16.

The Quick Release Maintenance Step cannot be stowed with the extra large Aero Design Ltd. Cargo Basket, configuration 940, installed.

## 0-5 GENERAL DESCRIPTION

The Quick Release Maintenance Step installation consists of a step assembly which is attached to quick release mounting provisions installed on the helicopter. These mounting provisions are capable of mounting various equipment including cargo baskets.

The step itself consists of an aluminum extrusion attached to brackets on the ends with fittings that lock into the quick release mechanism.

Two positions are provided: upper for use in maintenance activities and lower for stowing under a cargo basket.

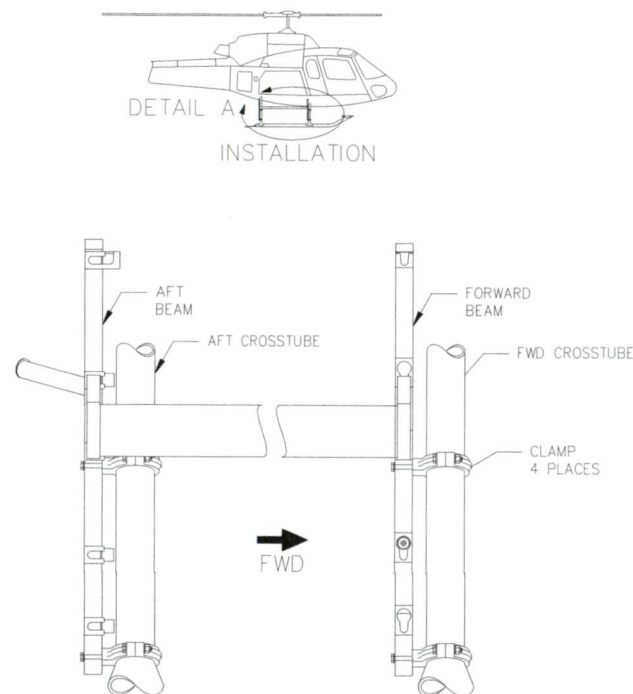


Figure 0-1 – AS350 Quick Release Maintenance Step Installation

The Extended Quick Release Maintenance Step is used to fill the gap between the forward cross tube and the short fixed step when the cargo basket is removed. The installation is identical to the standard Quick Release Maintenance Step.



## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

### *EASA*

The Airworthiness Limitations section is approved and variations must also be approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Maintenance Step.

## CHAPTER 5 – INSPECTION REQUIREMENTS

Refer to ICA764.90 for inspection requirements for the Quick Release Mounting Provisions not included below.

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Maintenance Step.

#### *Daily Inspection*

##### 1. Inspection Area: Step

- a) Inspect the step attachment to the beams for condition and security. Ensure quick release mechanism is completely extended, flush with the outboard surface of the beam.

#### *100 Hour or Annual Inspection*

Refer to ICA764.90 for inspection requirements for the Quick Release Mounting Provisions.

##### 1. Inspection Area: Step

- a) Visually inspect welds attaching end brackets to step extrusion for cracks, corrosion or other damage.
- b) Visually inspect step for damage.
- c) Visually inspect lugs attaching the step to the beams for security and damage.

#### *Special Inspections*

1. Following a hard landing inspect the Quick Release Maintenance Step installation in accordance with the 100 hour or annual inspection listed above.
2. Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601

## 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

Refer to ICA764.90 for the Quick Release Mounting Provisions for further limits and repair instructions.

If damage is found in the inspections above, repair in accordance with the instructions below.

### 1. Step Assembly

Part	Type of Damage	Max. Allowable	Repair
Step End Bracket	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Bent Lugs	None	N/A
Centre Step Section	Corrosion	2" x 2" x 0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 1" long	Blend up to 0.010" deep with scotchbrite.
	Cracks / Dents	None	N/A
	Permanent Deflection of Step	0.25" max at middle of step	None

### 2. Steel Beams

Part	Type of Damage	Max. Allowable	Repair
Steel Beam	Corrosion	0.015" deep	Blend up to 0.015" deep with scotchbrite.
	Scratches / Nicks	0.015" deep x 0.125" wide	Blend up to 0.015" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Elongation of Keyway	See figure 5-1 and 5-2	None
	Widening of slots	15/32" (0.469) diameter maximum (check with a 15/32" drill)	None

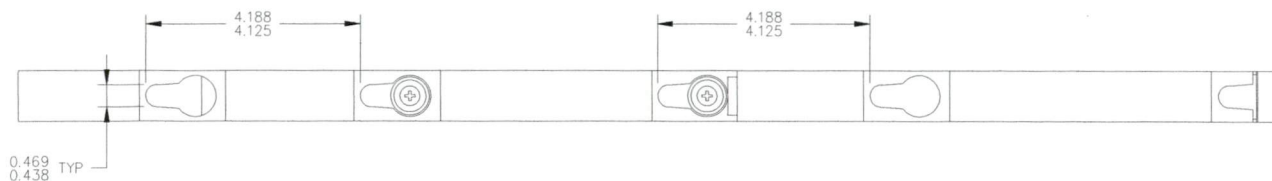


Figure 5-1 – Critical Keyway Dimensions (Forward Beam)

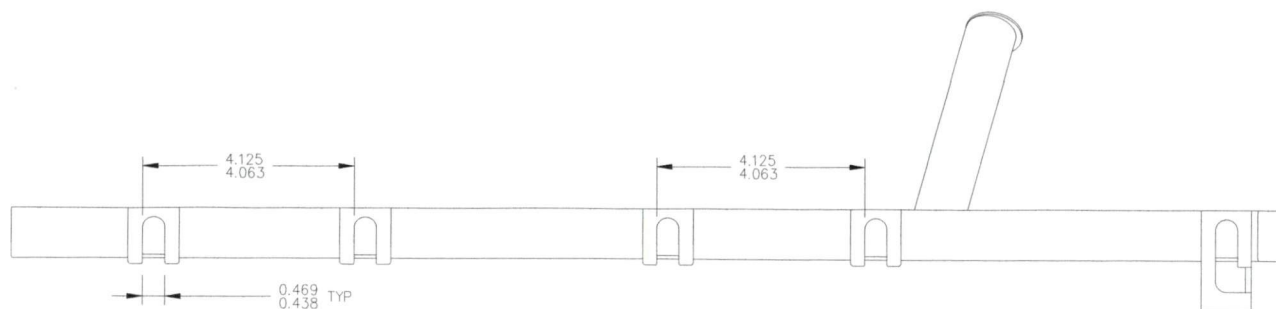


Figure 5-2 – Critical Keyway Dimensions (Aft Beam)

### 3. Step Welds

Cracks up to 0.25" long may be repaired as follows:

- Clean area of paint.
- Grind away weld in area of crack.
- T.I.G. weld per MIL-STD-2219 Class "C" using ER4043 filler rod. Do not grind flush.
- Touch up paint as noted in section 5-3.

### 4. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

1/4-28 insert: 3591-4CN375

3/8-24 insert: 3591-6CN563

## 5-3 PROTECTIVE TREATMENT INFORMATION

### 1. Quick Release Maintenance Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint. The tread area has two 1" strips of 3M Safety-Walk grip tape. If the grip tape is damaged, replace with equivalent grip tape, or apply Randolph X1567 Wingwalk grip paint or equivalent to the top surface.

### 2. Extended Quick Release Maintenance Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint. The tread area is coated with Randolph X1567 Wingwalk grip paint. If the grip paint is damaged, apply Randolph X1567 Wingwalk grip paint or equivalent to the top surface.



## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

The Quick Release Maintenance Step Installation may be applied to the right and/or left side of the helicopter. Refer to ICA764.90 for the Quick Release Mounting Provisions for installation, inspection, repair and removal instructions for the mounting provisions not included below.

### 25-1 STEP INSTALLATION

Refer to Figure 25-1.

1. Set aft attachment fittings into keyways in aft beam.
2. At forward beam, lift step until lower attachment fitting hits stop.
3. Push forward attachment fittings into keyways and slide step down until locked.

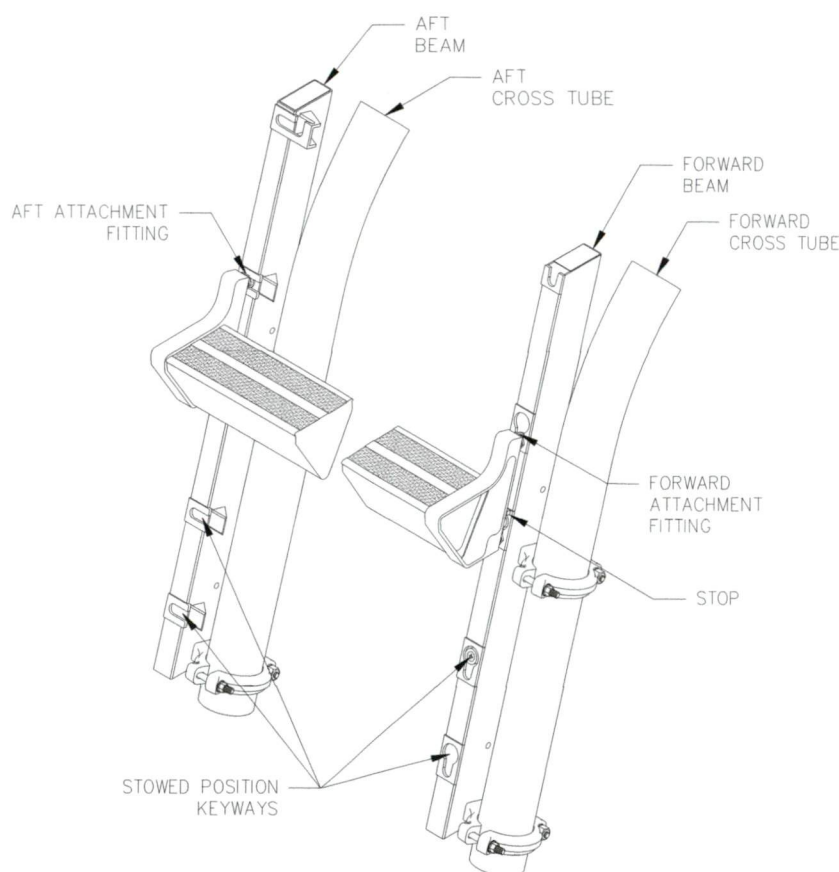


Figure 25-1 – Step Attachment

### 25-2 STEP REMOVAL

Refer to Figure 25-1.

1. Pull knob at bottom end of forward beam and lift step until forward attachment fittings are free of keyways.
2. Slide step forward until free of keyways on aft beam.

### 25-3 WEIGHT AND BALANCE

Different weight and balance configurations are required for the pilot. The first is the installation of Mounting Provisions only. The second is Provisions and Step in the upper position. The third is Provisions and Step in the lower (stowed) position.

Standard Quick Release Maintenance Step

Standard						
P/N *	Description	Weight	Longitudinal		Lateral **	
		lb	arm in	moment in-lb	arm in	moment in-lb
78602-01-XX	Low Provisions Installation	6.4	135.6	867.5	37.2	238.0
82716-01	Maintenance Step	4.0	136.0	544.0	38.3	153.2
<b>82701-01</b>	<b>Step Installation</b>	<b>10.4</b>	<b>135.7</b>	<b>1411.5</b>	<b>37.6</b>	<b>391.2</b>
78602-01-XX	Low Provisions Installation	6.4	135.6	867.5	37.2	238.0
82716-01	Maintenance Step (stowed)	4.0	136.0	544.0	41.1	164.4
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>10.4</b>	<b>135.6</b>	<b>1411.5</b>	<b>38.7</b>	<b>402.4</b>
<i>High Provisions Configuration</i>						
78602-02-XX	High Provisions Installation	6.4	135.6	867.5	36.5	233.8
82716-01	Quick Release Maintenance Step	4.0	136.0	544.0	37.6	150.4
<b>82701-01</b>	<b>Step Installation</b>	<b>10.4</b>	<b>135.6</b>	<b>1411.5</b>	<b>36.9</b>	<b>384.2</b>
78602-02-XX	High Provisions Installation	6.4	135.6	867.5	36.5	233.8
82716-01	Quick Release Maintenance Step	4.0	136.0	544.0	40.3	161.2
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>10.4</b>	<b>135.6</b>	<b>1411.5</b>	<b>38.0</b>	<b>395.0</b>
<i>Cargo Pod Compatible Configuration</i>						
78603-01-XX	Cargo Pod Compatible Provisions Installation	6.8	135.4	921.0	38.8	263.6
82716-01	Quick Release Maintenance Step	4.0	136.0	544.0	40.3	161.2
<b>82701-01</b>	<b>Step Installation</b>	<b>10.8</b>	<b>135.6</b>	<b>1465.0</b>	<b>39.3</b>	<b>424.8</b>
78603-01-XX	Cargo Pod Compatible Provisions Installation	6.8	135.4	921.0	38.8	263.6
82716-01	Quick Release Maintenance Step	4.0	136.0	544.0	43.1	172.4
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>10.8</b>	<b>135.6</b>	<b>1465.0</b>	<b>40.4</b>	<b>436.0</b>

\* -XX indicates side. Right side is -01, Left side is -02.

\*\*Lateral arm is negative for left side installation.

Table 25-1 – Quick Release Maintenance Step Weight and Balance

## Standard Quick Release Maintenance Step

P/N *	Description	Metric				
		Weight	Longitudinal		Lateral **	
	<i>Low Provisions Configuration</i>	kg	arm mm	moment mm-kg	arm mm	moment mm-kg
78602-01-XX	Low Provisions Installation	2.9	3443	9971	945	2735
82716-01	Maintenance Step	1.8	3454	6252	973	1751
<b>82701-01</b>	<b>Step Installation</b>	<b>4.7</b>	<b>3447</b>	<b>16223</b>	<b>955</b>	<b>4496</b>
78602-01-XX	Low Provisions Installation	2.9	3443	9971	945	2735
82716-01	Maintenance Step (stowed)	1.8	3454	6252	1044	1890
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>4.7</b>	<b>3447</b>	<b>16223</b>	<b>983</b>	<b>4625</b>
<i>High Provisions Configuration</i>						
78602-02-XX	High Provisions Installation	2.9	3443	9971	928	2688
82716-01	Quick Release Maintenance Step	1.8	3454	6252	955	1729
<b>82701-01</b>	<b>Step Installation</b>	<b>4.7</b>	<b>3447</b>	<b>16223</b>	<b>938</b>	<b>4416</b>
78602-02-XX	High Provisions Installation	2.9	3443	9971	928	2688
82716-01	Quick Release Maintenance Step	1.8	3454	6252	1024	1853
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>4.7</b>	<b>3447</b>	<b>16223</b>	<b>965</b>	<b>4540</b>
<i>Cargo Pod Compatible Configuration</i>						
78603-01-XX	Cargo Pod Compatible Provisions Installation	3.1	3440	10585	985	3030
82716-01	Quick Release Maintenance Step	1.8	3454	6252	1024	1853
<b>82701-01</b>	<b>Step Installation</b>	<b>4.9</b>	<b>3445</b>	<b>16837</b>	<b>999</b>	<b>4882</b>
78603-01-XX	Cargo Pod Compatible Provisions Installation	3.1	3440	10585	985	3030
82716-01	Quick Release Maintenance Step	1.8	3454	6252	1095	1981
<b>82701-01</b>	<b>Step Installation (stowed)</b>	<b>4.9</b>	<b>3445</b>	<b>16837</b>	<b>1025</b>	<b>5011</b>

\* -XX indicates side. Right side is -01, Left side is -02.

\*\*Lateral arm is negative for left side installation.

Table 25-2 – Quick Release Maintenance Step Weight and Balance



## Extended Quick Release Maintenance Step

## Standard

P/N *	Description	Weight	Longitudinal		Lateral **	
		lb	arm in	moment in-lb	arm in	moment in-lb
<i>Low Provisions Configuration</i>						
78602-01-XX	Low Provisions Installation	6.4	135.6	867.5	37.2	238.0
82711-01-XX	Maintenance Step	9.0	126.5	1138.5	37.9	341.1
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	<b>15.4</b>	<b>130.3</b>	<b>2006.0</b>	<b>37.6</b>	<b>579.1</b>
78602-01-XX	Low Provisions Installation	6.4	135.6	867.5	37.2	238.0
82711-01-XX	Maintenance Step (stowed)	9.0	126.5	1138.5	40.7	366.3
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	<b>15.4</b>	<b>130.3</b>	<b>2006.0</b>	<b>39.2</b>	<b>604.3</b>
<i>High Provisions Configuration</i>						
78602-02-XX	High Provisions Installation	6.4	135.6	867.5	36.5	233.8
82711-01-XX	Quick Release Maintenance Step	9.0	126.5	1138.5	37.2	334.8
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	<b>15.4</b>	<b>130.3</b>	<b>2006.0</b>	<b>36.9</b>	<b>568.6</b>
78602-02-XX	High Provisions Installation	6.4	135.6	867.5	36.5	233.8
82711-01-XX	Quick Release Maintenance Step	9.0	126.5	1138.5	39.9	359.1
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	<b>15.4</b>	<b>130.3</b>	<b>2006.0</b>	<b>38.5</b>	<b>592.9</b>
<i>Cargo Pod Compatible Configuration</i>						
Cargo Pod Compatible						
78603-01-XX	Provisions Installation	6.8	135.4	921.0	38.8	263.6
82711-01-XX	Quick Release Maintenance Step	9.0	126.5	1138.5	39.9	359.1
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	<b>15.8</b>	<b>130.3</b>	<b>2059.5</b>	<b>39.4</b>	<b>622.7</b>
Cargo Pod Compatible						
78603-01-XX	Provisions Installation	6.8	135.4	921.0	38.8	263.6
82711-01-XX	Quick Release Maintenance Step	9.0	126.5	1138.5	42.7	384.3
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	<b>15.8</b>	<b>130.3</b>	<b>2059.5</b>	<b>41.0</b>	<b>647.9</b>

\* -XX indicates side. Right side is -01, Left side is -02.

\*\*Lateral arm is negative for left side installation.

Table 25-3 – Extended Quick Release Maintenance Step Weight and Balance



## Extended Quick Release Maintenance Step

P/N *	Description	Metric				
		Weight	Longitudinal		Lateral **	
	<i>Low Provisions Configuration</i>	kg	arm mm	moment mm-kg	arm mm	moment mm-kg
78602-01-XX	Low Provisions Installation	2.9	3444	9974	945	2736
82711-01-XX	Maintenance Step	4.1	3213	13085	963	3920
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	7.0	3309	23059	955	6657
78602-01-XX	Low Provisions Installation	2.9	3444	9974	945	2736
82711-01-XX	Maintenance Step (stowed)	4.1	3213	13085	1034	4210
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	7.0	3309	23059	997	6946
<i>High Provisions Configuration</i>						
78602-02-XX	High Provisions Installation	2.9	3444	9974	927	2685
82711-01-XX	Quick Release Maintenance Step	4.1	3213	13085	945	3848
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	7.0	3309	23059	937	6533
78602-02-XX	High Provisions Installation	2.9	3444	9974	927	2685
82711-01-XX	Quick Release Maintenance Step	4.1	3213	13085	1013	4127
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	7.0	3309	23059	978	6812
<i>Cargo Pod Compatible Configuration</i>						
78603-01-XX	Cargo Pod Compatible Provisions Installation	3.1	3439	10582	986	3032
82711-01-XX	Quick Release Maintenance Step	4.1	3213	13085	1013	4127
<b>82702-01-XX</b>	<b>Extended Step Installation</b>	7.1	3310	23667	1001	7160
78603-01-XX	Cargo Pod Compatible Provisions Installation	3.1	3439	10582	986	3032
82711-01-XX	Quick Release Maintenance Step	4.1	3213	13085	1085	4417
<b>82702-01-XX</b>	<b>Ext. Step Installation (stowed)</b>	7.1	3310	23667	1042	7449

\* -XX indicates side. Right side is -01, Left side is -02.

\*\*Lateral arm is negative for left side installation.

Table 25-4 – Extended Quick Release Maintenance Step Weight and Balance

## 25-4 STRUCTURAL FASTENER DATA

Refer to Standard Practices Manual for torque values not listed in this ICA.

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 827.92

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### AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES

### FIXED CABIN STEPS

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

#### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Fixed Cabin Step installed in accordance with AERO Design Ltd. Document Control List DCL827-3, Revision 7, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 4  
Date: 31 July 2014

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Aero Design Ltd.



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## RECORD OF REVISIONS

Revision Number	Issue Date	Date Inserted	By
0	20 October 2008		Original Issue
1	23 July 2009		
2	28 June 2010		
3	29 November 2012		
4	31 July 2014		

## LIST OF EFFECTIVE PAGES

List of Revisions	Revision 0 (Original Issue)	20 October 2008
	Revision 1	23 July 2009
	Revision 2	28 June 2010
	Revision 3	29 November 2012
	Revision 4	31 July 2014

## List of Effective Pages

<u>Description</u>	<u>Page</u>	<u>Revision</u>	<u>Description</u>	<u>Page</u>	<u>Revision</u>
Cover	1	4	25-50-00	11	4
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04-00-00	6	4		16	4
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## NOTE

Revised text is indicated by a black vertical line. A revised page with only a vertical line next to the page number indicates that text has shifted or that non-technical correction(s) were made on that page. Insert latest revision pages; dispose of superseded pages.

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Fixed Cabin Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Fixed Cabin Step. Requests for a copy may be made in writing to:

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

The Long Fixed Cabin Step (82705-01), Long Fixed Commuter Cabin Step (82751-01-XX), and Long DART Step Conversion (82771-01 and 82773-01) are NOT compatible with the Aero Design Ltd. Long or Extra Large Cargo Baskets installed in accordance with STC SH08-16 (drawing 78401 or 94001), but may be installed on the opposite side of the helicopter to the Long or Extra Large Cargo Basket.

The Short Fixed Cabin Step (82706-01 and 82706-11), Short Fixed Commuter Cabin Step (82750-01-XX), and Short DART Step Conversion (82770-01 and 82772-01) are compatible with all Aero Design Ltd. Cargo Baskets installed in accordance with STC SH08-16 in any mounting configuration.

The Full Length Cabin Step (82709-01) and Full Length Commuter Cabin Step (82752-01-XX) are NOT compatible with any Aero Design Ltd. Cargo Baskets installed in accordance with STC SH08-16, but may be installed on the opposite side of the helicopter to the Cargo Basket.

## 0-5 GENERAL DESCRIPTION

The Fixed Cabin Step installation consists of a step assembly which is attached to the forward end of the skid tube, running aft to the aft cross tube (full length configuration), to the forward cross tube (long configuration), or a bracket attached to the skid tube located under the door (short configuration). The different configurations are provided to accommodate Aero Design Ltd. Quick Release Cargo Baskets while providing the longest step possible for access to the cabin.

The step itself consists of an aluminum extrusion attached to a sheet metal assembly that attaches to the forward end of the skid tube. Aluminum brackets are used to attach the aft end.

The commuter step is an additional section added to the basic step that provides 3 steps up to the cabin. The steps are similar to the non-commuter configuration, but are reinforced at the forward end.

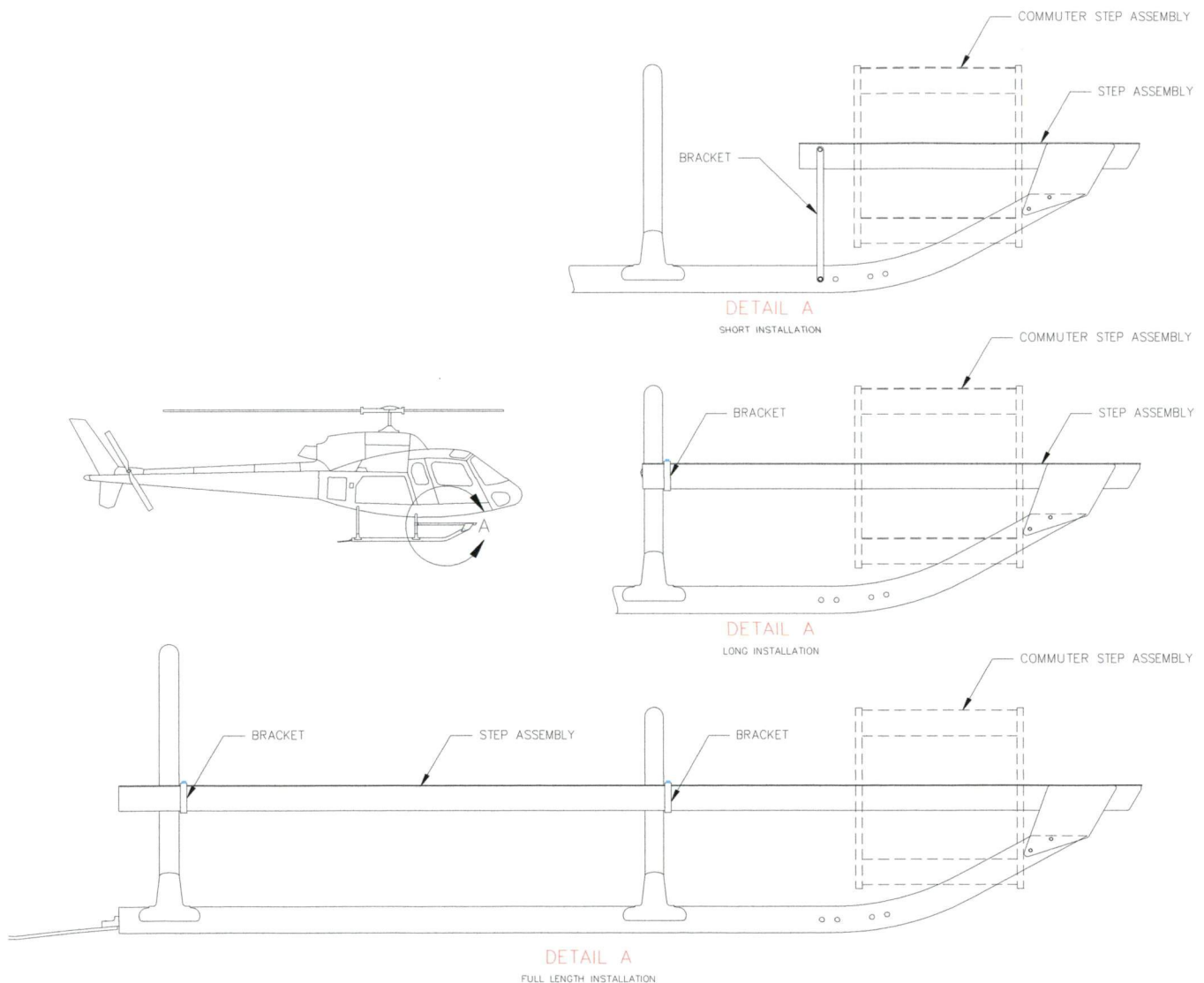


Figure 0-1 – AS350 Fixed Cabin Step Installations

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

### *EASA*

The Airworthiness Limitations section is approved and variations must also be approved.

No additional airworthiness limitations have been imposed due the installation of the Fixed Cabin Steps.



## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Fixed Cabin Step.

#### *Daily Inspection*

##### 1. Inspection Area: Step

- a) Full Length step only: Inspect the bracket and clamp attaching the step to the aft cross tube for condition and security.
- b) Long and Full Length steps only: Inspect the bracket and clamp attaching the step to the forward cross tube for condition and security.
- c) Short step only: Inspect bracket attaching aft end of step to skid tube for condition and security.
- d) Inspect the forward step attachment sheet metal bracket for condition and security.
- e) Commuter steps only: Inspect the attachments of the commuter step section to the basic step for condition and security.

#### *100 Hour or Annual Inspection*

##### 1. Inspection Area: Step

- a) Visually inspect all mounting hardware for condition and security.
- b) Visually inspect step, mounting brackets, and clamps for condition and security.
- c) Long and Full Length steps only: Check clamps for slipping on the cross tube(s). Step should be parallel to the ground (+/- 0.25"), use height at attachment to forward tip of skid tube as a reference.

#### *Special Inspections*

1. Following a hard landing inspect the Fixed Cabin Step installation in accordance with the 100 hour or annual inspection listed above.
2. Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601



## 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

### 1. Step Assembly (including commuter step section)

Part	Type of Damage	Max. Allowable	Repair
Brackets, Clamps	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Bent Lugs	None	N/A
Step Section	Corrosion	2" x 2" x 0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 1" long	Blend up to 0.010" deep with scotchbrite.
	Cracks / Dents	None	N/A
	Permanent Deflection of Step	0.25" max at middle of step	None

### 2. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

¼-28 insert: 3591-4CN375

## 5-3 PROTECTIVE TREATMENT INFORMATION

### 1. Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint.

The tread areas have two strips of 3M Safety-Walk grip tape. If the grip tape is damaged replace with equivalent grip tape, or apply Randolph X1567 Wingwalk grip paint or equivalent to the top surface.

### 2. Brackets / Clamps

The brackets and clamps are supplied painted, powder coated or anodized. If the finish is damaged, touch up with polyurethane paint.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

The Fixed Cabin Step Installation may be applied to the right and/or left side of the helicopter.

Installation of the Commuter Step (any configuration) is identical to the standard installation. Commuter Steps are “sided” right and left. The side is identified in the part number by the last dash number: -01 is Right, -02 is Left.

### 25-1 SHORT STEP INSTALLATION

Configuration: 82706-01 (standard), 82706-11 (extra short), 82750-01-XX (commuter), 82770-01 (DART Conversion), 82772-01 (DART Conversion, old style)

Refer to Figure 25-1 and 25-2.

1. Remove existing bolt, nut, and cups from last float provision hole at forward end of skid tube. For extra short configuration use second hole from front.
2. Insert Bushing 82733-02 into hole in skid tube. Set Bracket 82733-01 (82782-01 for DART conversion) over bushing. Insert AN4-42A bolt with NAS1149F0463P washer through bracket and bushing. Install NAS1149F0463P washer and MS21044N4 nut on bolt. Do not tighten nut.
3. Set step assembly (82715-01 standard, 82719-01 extra short, 82718-01-XX commuter, 82770-10 DART Conversion, 82772-10 Dart Conversion) on bracket. Insert AN4-42A Bolt with NAS1149F0463P Washer through bracket and step. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt. Do not tighten nut.

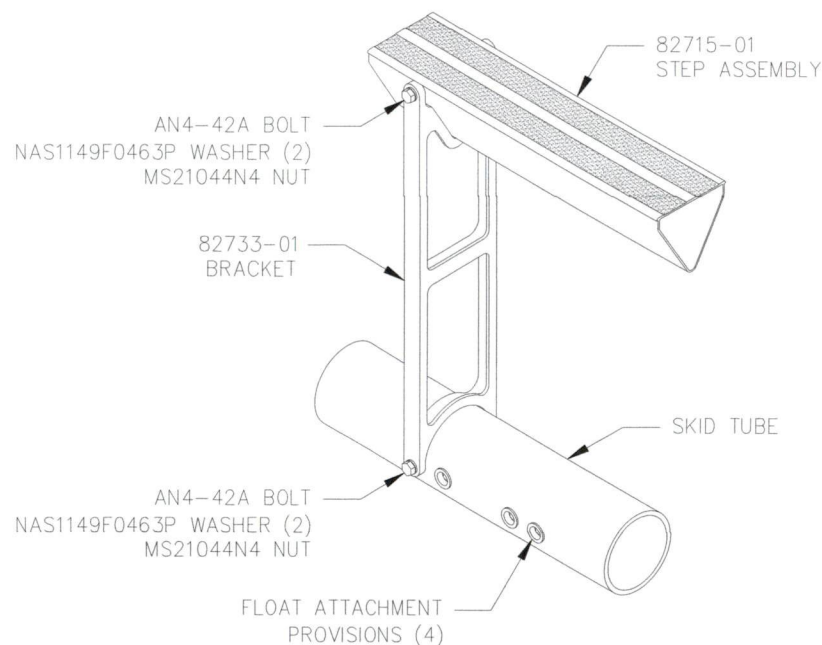


Figure 25-1 – Short Step Aft Attachment

4. At the forward end of the step, install two (2) AN3-35A Bolts, NAS1149F0363P Washers (2), and MS21044N3 Nuts through existing holes in forward end of skid tube.

DART Conversion only: use two (2) AN3-37A Bolts.

## 5. Tighten all hardware as follows:

AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)

AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

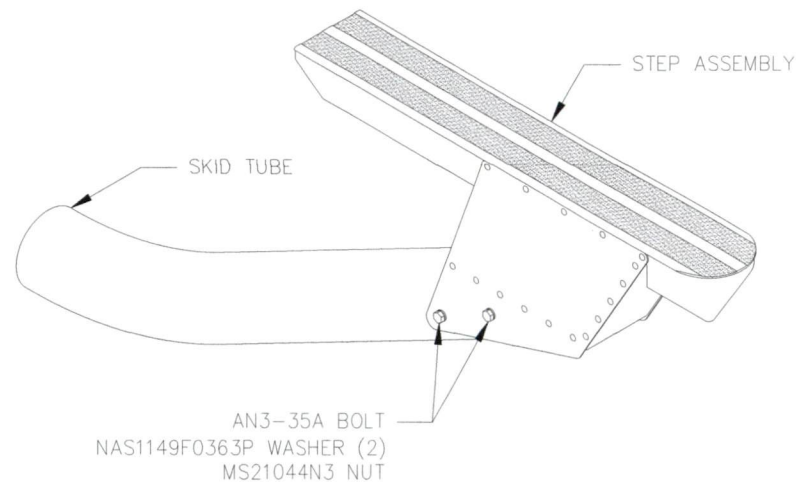


Figure 25-2 – Forward Step Attachment

**25-2 SHORT STEP REMOVAL**

Configuration: 82706-01 (standard), 82706-11 (extra short), 82750-01-XX (commuter), 82770-01 (DART Conversion), 82772-01 (DART Conversion, old style)

Refer to figure 25-1 and 25-2.

1. Remove AN3-35A Bolts (or AN3-37A Bolts), NAS1149F0363P Washers (2), and MS21044N3 Nuts attaching forward end of step to skid tube.
2. Remove AN4-42A Bolt, NAS1149F0463P Washers (2), and MS21044N4 Nut attaching step to bracket. Remove step.
3. Remove AN4-42A Bolt, NAS1149F0463P Washers (2), and MS21044N4 Nut attaching bracket to skid tube. Remove bracket and bushing from skid tube.
4. Install 22201TK050-072X Screw, 350A41-1095-20 Cup (2), 23119TK050X Washer, and ASN52320BH050N Nut in hole in skid tube. Refer to Illustrated Parts book and Maintenance Manual.



### 25-3 LONG STEP INSTALLATION

Configuration: 82705-01 (standard), 82751-01-XX (commuter), 82771-01 (DART Conversion), 82773-01 (DART Conversion, old style)

Refer to Figure 25-3 thru 25-5.

1. Attach Clamp Assembly 78620-01 to Bracket 82723-01 (82780-01 or 82785-01 for DART Conversion) with one (1) AN4-4A Bolt and NAS1149F0463P Washer. Orient clamp with T-bolt side inboard, and bracket forward. Do not tighten bolt. Slide bracket with clamp onto aft end of step.

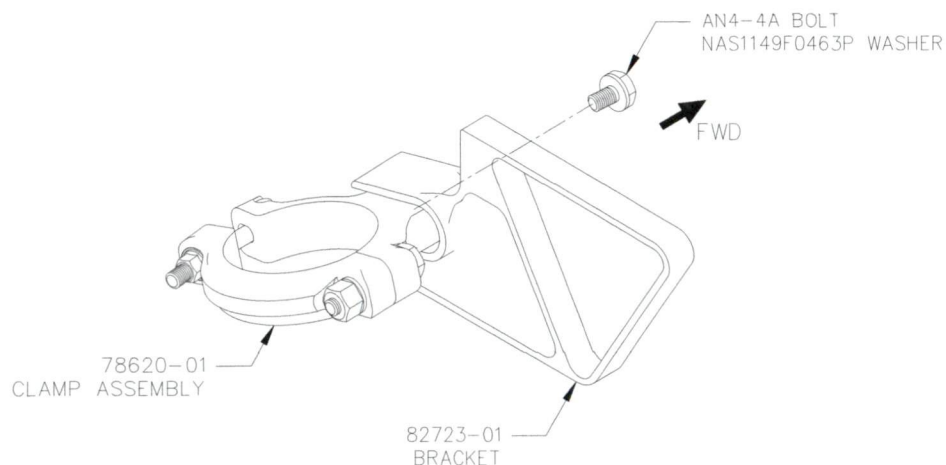


Figure 25-3 – Clamp and Bracket Assembly  
(Right side shown, left side opposite)

2. Locate forward end of step assembly (82717-01 standard, 82718-02-XX commuter) on skid tube. Install two (2) AN3-35A Bolts, NAS1149F0363P Washers (2), and MS21044N3 Nuts into existing holes in forward end of skid tube.

DART Conversion Only: Use step assembly 82771-10 or 82773-10; two (2) AN3-37A bolts.

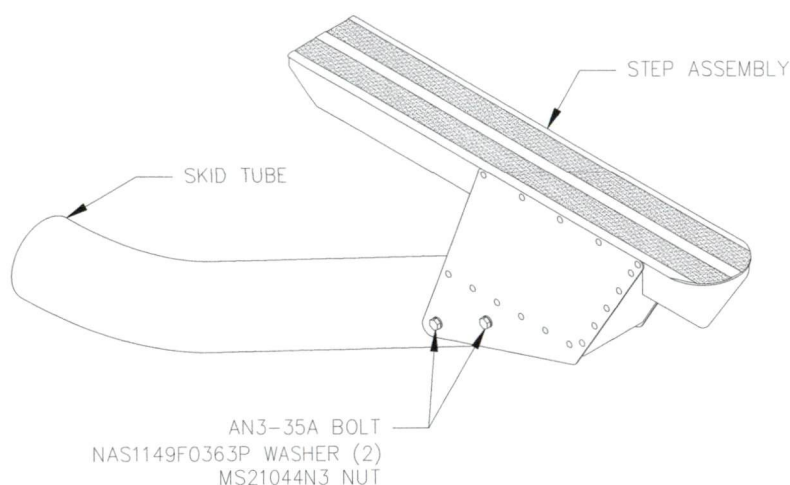


Figure 25-4 – Forward Step Attachment

3. Slide clamp and bracket assembly aft along step until clamp can be attached to forward cross-tube.



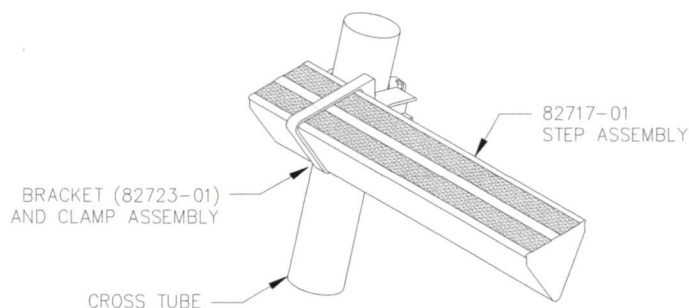


Figure 25-5 – Long Step Aft Attachment

4. Tighten clamp bolts to prevent the clamp from slipping on the cross tube.
5. Level the step parallel to the ground (+/- 0.25"). Nominal height is 17.5".
6. Tighten all hardware as follows:
  - AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)
  - AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

#### 25-4 LONG STEP REMOVAL

Configuration: 82705-01 (standard), 82751-01-XX (commuter), 82771-01 (DART Conversion), 82773-01 (DART Conversion, old style)

Refer to Figure 25-3 thru 25-5.

1. Remove AN3-35A Bolts (or AN3-37A Bolts), NAS1149F0363P Washers, and MS21044N3 Nuts attaching forward end of step to skid tube.
2. Remove bolts securing clamp to cross tube.
3. Remove step assembly.

## 25-5 FULL LENGTH STEP INSTALLATION

Configuration: 82709-01 (standard), 82752-01-XX (commuter)

Refer to Figure 25-6 thru 25-8.

1. Attach Clamp 78620-01 to Bracket 82723-01 with AN4-4A Bolt and NAS1149F0463P Washer. Orient clamp with T-bolt side inboard, and bracket on forward side of cross tube. Do not tighten bolt. Slide bracket with clamp onto aft end of step. See figure 25-6. Repeat for second Bracket.

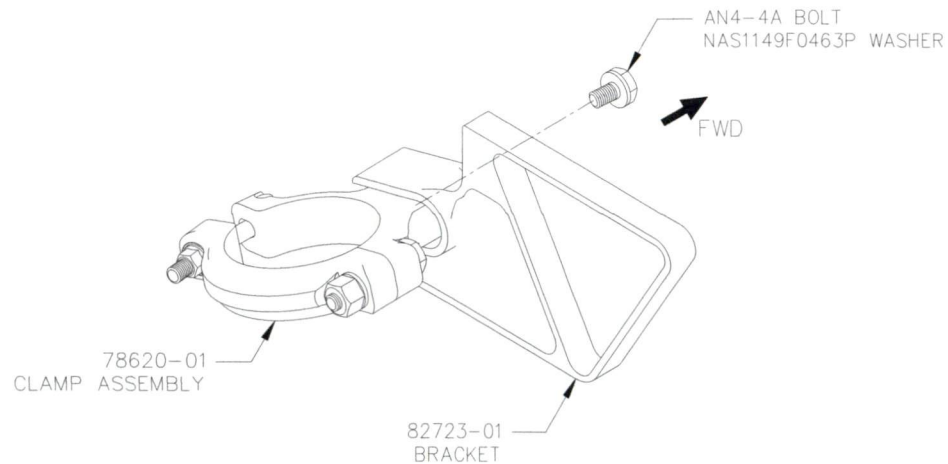


Figure 25-6 – Clamp and Bracket Assembly  
(Right side shown, left side opposite)

2. Locate forward end of step assembly on forward end of skid tube. Install two (2) AN3-35A Bolt, NAS1149F0363P Washers (2), and MS21044N3 Nut into existing holes in forward end of skid tube. See figure 25-7.

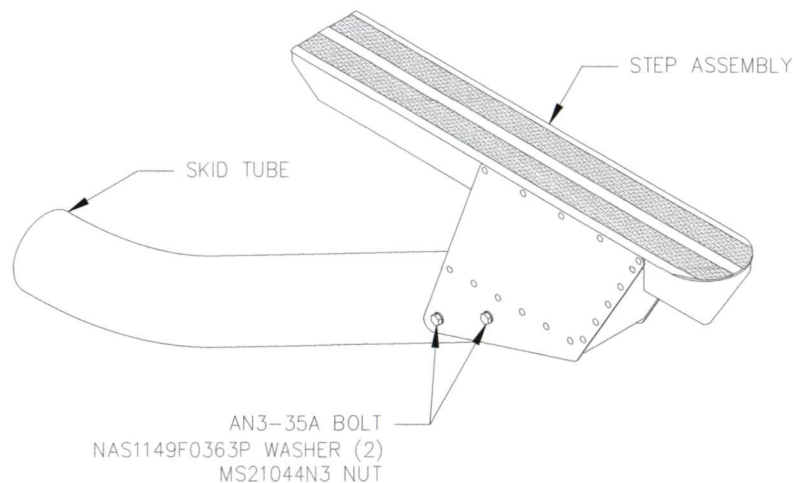


Figure 25-7 – Forward Step Attachment

3. Slide clamp and bracket (82723-01) assembly along step until clamp can be attached to forward cross-tube. Repeat at aft cross tube. See Figure 25-8.

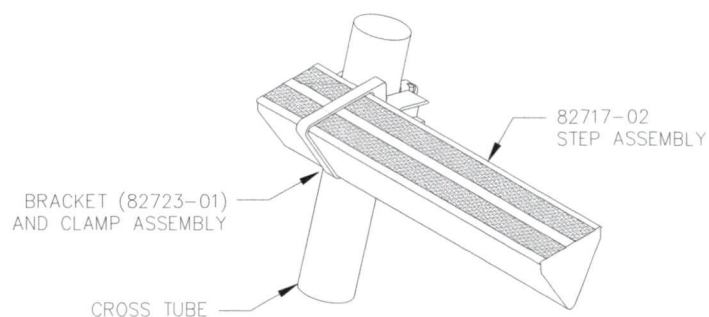


Figure 25-8 – Aft Step Attachment

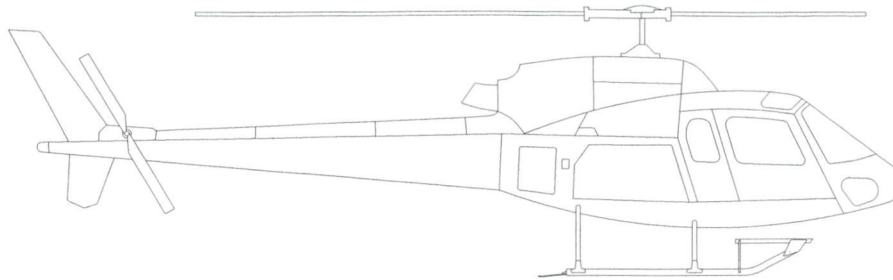
4. Tighten clamp bolts to prevent the clamp from slipping on the cross tube.
5. Level the step parallel to the ground (+/- 0.25"). Nominal height is 17.5".
6. Tighten all hardware as follows:
  - AN3 Bolts: 20-25 in-lbs (2.3-2.8 N-m)
  - AN4 Bolts: 50-70 in-lbs (5.6-7.9 N-m)

## 25-6 FULL LENGTH STEP REMOVAL

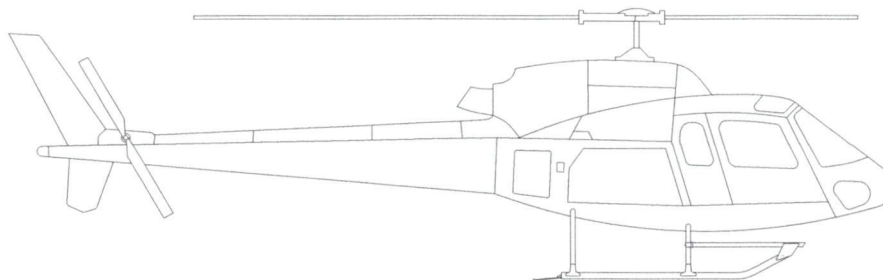
Configuration: 82709-01

Refer to figures 25-6 thru 25-8.

1. Remove fasteners from clamps on forward and aft cross tubes.
2. Remove AN3-35A bolts, NAS1149F0363P Washers, and MS21044N3 Nuts attaching forward end of step to forward tip of skid tube.
3. Remove step assembly.

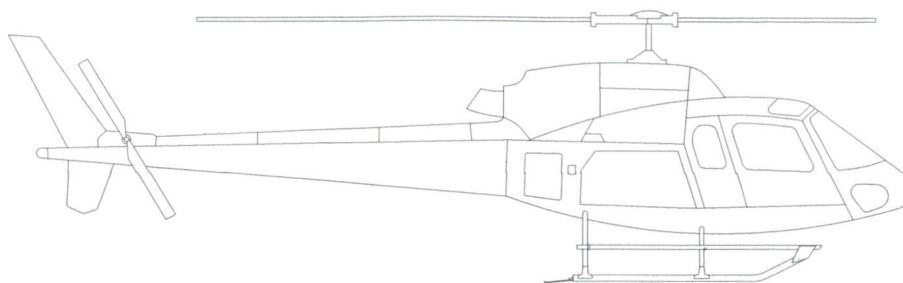
**25-7 BILL OF MATERIALS****SHORT CABIN STEP INSTALLATION**

Qty.	Part Number	Description
	<b>82706-01</b>	<b>Short Cabin Step Installation</b>
. 1	82715-01	Step Assembly
	<b>82706-11</b>	<b>Extra Short Cabin Step Installation</b>
. 1	82719-01	Extra Short Step Assembly
. 1	82733-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

**LONG CABIN STEP INSTALLATION**

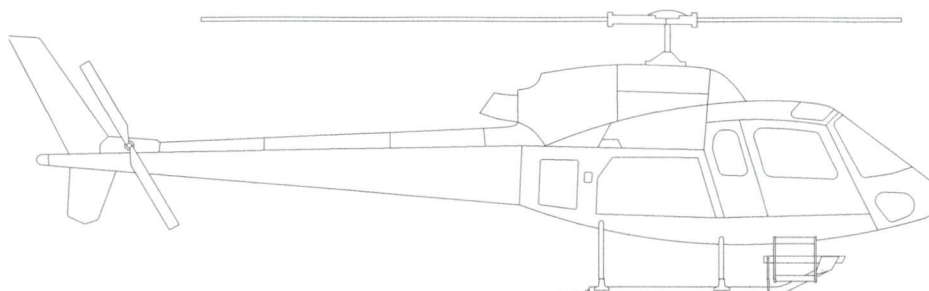
Qty.	Part Number	Description
	<b>82705-01</b>	<b>Long Cabin Step Installation</b>
. 1	82717-01	Step Assembly
. 1	82723-01	Bracket
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 1	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut





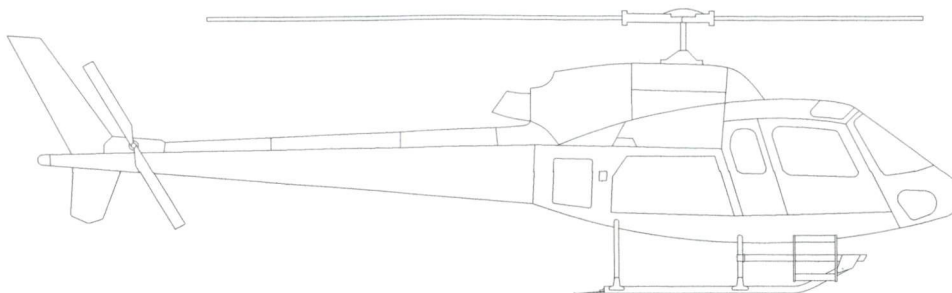
### FULL LENGTH CABIN STEP INSTALLATION

Qty.	Part Number	Description
	<b>82709-01</b>	<b>Full Length Cabin Step Installation</b>
. 1	82717-02	Step Assembly
. 2	82723-01	Bracket
. 2	78620-01	Clamp Assembly
. 2	AN4-4A	Bolt
. 2	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



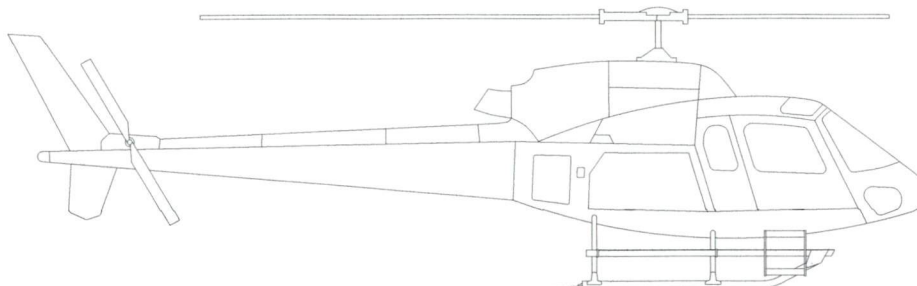
### SHORT COMMUTER CABIN STEP INSTALLATION

Qty.	Part Number	Description
	<b>82750-01-01</b>	<b>Short Commuter Cabin Step Installation (RH)</b>
	<b>82750-01-02</b>	<b>Short Commuter Cabin Step Installation (LH)</b>
. 1	82718-01-01	Step Assembly (RH)
. 1	82718-01-02	Step Assembly (LH)
. 1	82733-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



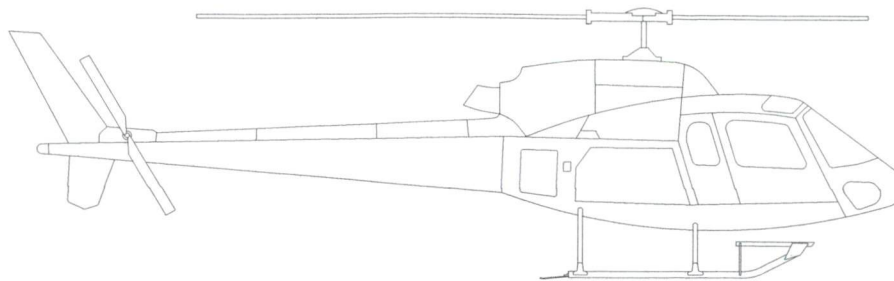
### LONG COMMUTER CABIN STEP INSTALLATION

Qty.	Part Number	Description
	<b>82751-01-01</b>	<b>Long Commuter Cabin Step Installation (RH)</b>
	<b>82751-01-02</b>	<b>Long Commuter Cabin Step Installation (LH)</b>
. 1	82718-02-01	Step Assembly (RH)
. 1	82718-02-02	Step Assembly (LH)
. 1	82723-01	Bracket
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 2	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



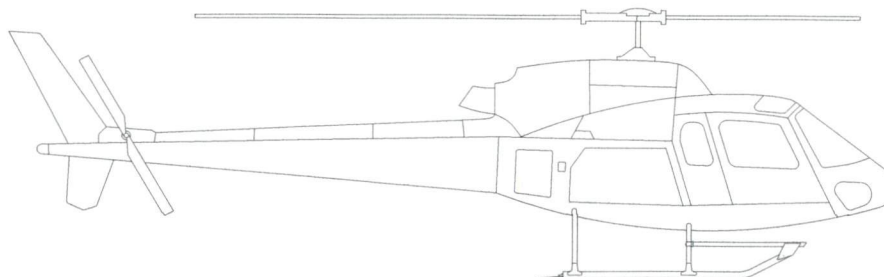
### FULL LENGTH COMMUTER CABIN STEP INSTALLATION

Qty.	Part Number	Description
	<b>82752-01-01</b>	<b>Full Length Commuter Cabin Step Installation (RH)</b>
	<b>82752-01-02</b>	<b>Full Length Commuter Cabin Step Installation (LH)</b>
. 1	82718-03-01	Step Assembly (RH)
. 1	82718-03-02	Step Assembly (RH)
. 2	82724-01	Bracket
. 2	78620-01	Clamp Assembly
. 2	AN4-4A	Bolt
. 3	NAS1149F0463P	Washer
. 2	AN3-35A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



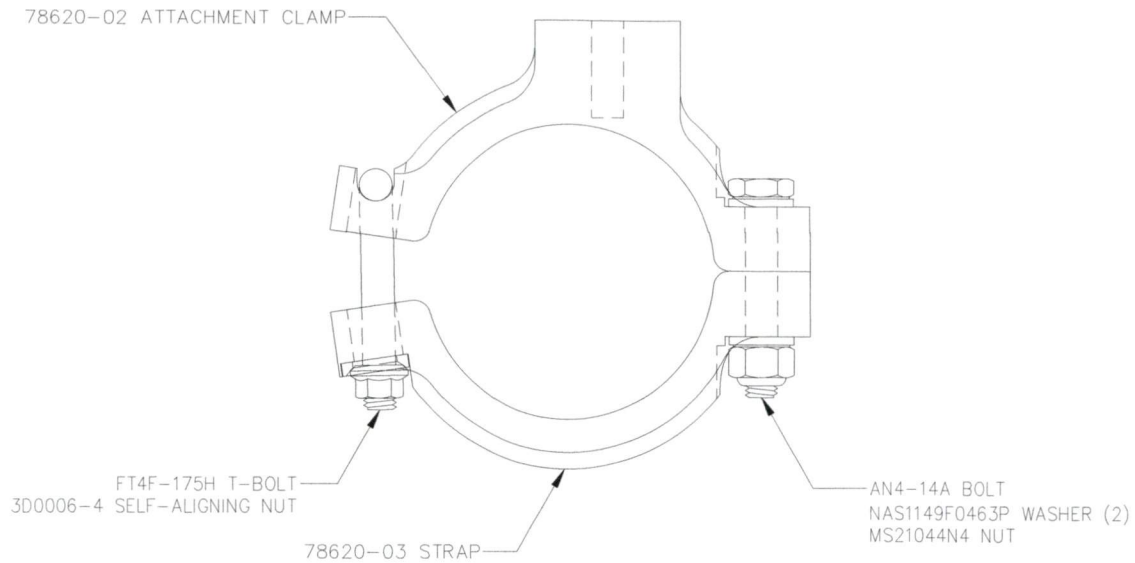
### SHORT CABIN STEP INSTALLATION - DART CONVERSION

Qty.	Part Number	Description
	<b>82770-01</b>	<b>Short Cabin Step Installation – DART Conversion</b>
	<b>82772-01</b>	<b>Short Cabin Step Installation – DART Conversion (old style)</b>
. 1	82770-10	Step Assembly (82770-01)
. 1	82772-10	Step Assembly (82772-01)
. 1	82782-01	Bracket
. 1	82733-02	Bushing
. 2	AN4-42A	Bolt
. 4	NAS1149F0463P	Washer
. 2	MS21044N4	Nut
. 2	AN3-37A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut



### LONG CABIN STEP INSTALLATION - DART CONVERSION

Qty.	Part Number	Description
	<b>82771-01</b>	<b>Long Cabin Step Installation – DART Conversion</b>
	<b>82773-01</b>	<b>Long Cabin Step Installation – DART Conversion (Old Style)</b>
. 1	82771-10	Step Assembly (82771-01)
. 1	82773-10	Step Assembly (82773-01)
. 1	82780-01	Bracket (82771-01)
. 1	82785-01	Bracket (82773-01)
. 1	78620-01	Clamp Assembly
. 1	AN4-4A	Bolt
. 1	NAS1149F0463P	Washer
. 2	AN3-37A	Bolt
. 4	NAS1149F0363P	Washer
. 2	MS21044N3	Nut

**CLAMP ASSEMBLY**

Qty.	Part Number	Description
	<b>78620-01</b>	<b>Clamp Assembly</b>
. 1	78620-02	Attachment Clamp (with mounting pad)
. 1	78620-03	Strap (no mounting pad)
. 1	AN4-14A	Bolt
. 2	NAS1149F0463P	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	3D0006-4	Self Aligning Nut



**25-8 WEIGHT AND BALANCE****Standard**

P/N	Description	Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
82706-01	Short Cabin Step Installation	4.2	69.1	290.2	39.4	165.5
82705-01	Long Cabin Step Installation	5.0	76.2	381.0	39.4	197.0
82709-01	Full Length Cabin Step Installation	9.8	107.9	1057.4	39.4	386.1
82750-01-XX	Short Commuter Cabin Step Installation (-01 RH / -02 LH)	12.2	70.7	862.2	41.9	511.1
82751-01-XX	Long Commuter Cabin Step Installation (-01 RH / -02 LH)	13.0	73.3	953.0	41.7	542.6
82752-01-XX	Full Length Commuter Cabin Step Installation (-01 RH / -02 LH)	17.8	91.5	1629.4	41.1	731.7
82770-01	Short Cabin Step Installation – DART Conversion	5.0	69.5	347.5	39.4	197.0
82771-01	Long Cabin Step Installation – DART Conversion	6.5	69.5	451.8	39.4	256.1
82772-01	Short Cabin Step Installation – DART Conversion, Old Style	6.8	77.1	524.3	39.4	267.9
82773-01	Long Cabin Step Installation – DART Conversion, Old Style	9.5	77.1	732.5	39.4	374.3

**Metric**

P/N	Description	Weight	Longitudinal		Lateral	
		kg	arm mm	moment mm-kg	Arm Mm	moment mm-kg
82706-01	Short Cabin Step Installation	1.9	1755	3335	1000	1900
82705-01	Long Cabin Step Installation	2.3	1935	4378	1000	2260
82709-01	Full Length Cabin Step Installation	4.4	2741	12155	1000	4434
82750-01-XX	Short Commuter Cabin Step Installation (-01 RH / -02 LH)	5.5	1795	9910	1064	5874
82751-01-XX	Long Commuter Cabin Step Installation (-01 RH / -02 LH)	5.9	1862	10953	1060	6236
82752-01-XX	Full Length Commuter Cabin Step Installation (-01 RH / -02 LH)	8.1	2325	18727	1044	8410
82770-01	Short Cabin Step Installation – DART Conversion	2.3	1765	3994	1000	2262
82771-01	Long Cabin Step Installation – DART Conversion	2.9	1765	5192	1000	2941
82772-01	Short Cabin Step Installation – DART Conversion, Old Style	3.1	1958	6026	1000	3077
82773-01	Long Cabin Step Installation – DART Conversion, Old Style	4.3	1958	8418	1000	4299

Note: Lateral arms are given for right side installation. For installation on left side, lateral arms are negative.

**25-9 STRUCTURAL FASTENER DATA**

Refer to Standard Practices Manual for torque values not listed in this ICA.

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 827.93

### AIRBUS HELICOPTERS (EUROCOPTER) AS350 & AS355 SERIES

### MAINTENANCE PEG STEP

TCCA Supplemental Type Certificate No. SH09-38  
FAA Supplemental Type Certificate No. SR02770NY  
EASA Supplemental Type Certificate No. \_\_\_\_\_

#### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Maintenance Peg Step installed in accordance with AERO Design Ltd. Document Control List DCL827-2, Revision 4, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 3  
Date: 31 July 2014

Aero Design Ltd.



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**RECORD OF REVISIONS**

Revision Number	Issue Date	Date Inserted	By
0	4 August 2009		Original Issue
1	17 December 2009		
2	28 June 2010		
3	31 July 2014		

**LIST OF EFFECTIVE PAGES**

## List of Revisions

Revision 0 (Original Issue)	4 August 2009
Revision 1	17 December 2009
Revision 2	28 June 2010
Revision 3	31 July 2014

## List of Effective Pages

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	10	3			

**NOTE**

Revised text is indicated by a black vertical line. A revised page with only a vertical line next to the page number indicates that text has shifted or that non-technical correction(s) were made on that page. Insert latest revision pages; dispose of superseded pages.

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Maintenance Peg Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Maintenance Peg Step. Requests for a copy may be made in writing to:

Aero Design Ltd.  
9888A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

The Maintenance Peg Step Installation (82707-01) is not compatible with Quick Release Mounting Provisions in accordance with STC SH08-16. A peg step is included as an integral part of the Quick Release Mounting Provisions. The Maintenance Peg Step may be installed on the opposite side to the Attachment Provisions.

## 0-5 GENERAL DESCRIPTION

The Maintenance Peg Step Installation (82707-01) consists of a fitting attached to the aft cross tube with a tube that sticks out inboard and aft from the cross tube. The Maintenance Peg Step is used to aid access to the helicopter for maintenance activities.

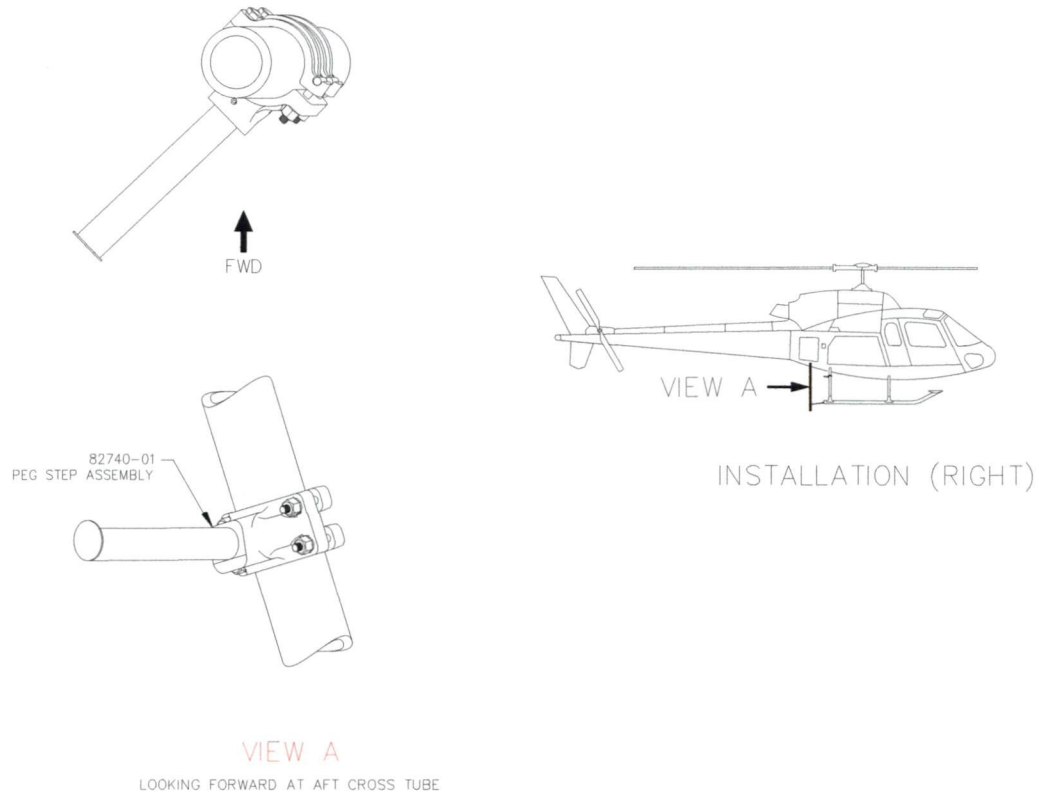


Figure 0-1 – Maintenance Peg Step Installation

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

### *EASA*

The Airworthiness Limitations section is approved and variations must also be approved.

No additional airworthiness limitations have been imposed due the installation of the Maintenance Peg Step.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Maintenance Peg Step.

#### *Daily Inspection*

1. Inspection Area: Step
  - a) Inspect the Step for condition and security.

#### *100 Hour or Annual Inspection*

1. Inspection Area: Step
  - a) Visually inspect all mounting hardware for condition and security.
  - b) Visually inspect step for cracks, corrosion or other damage.
  - c) Visually inspect step tube attachment to socket fitting. Step tube must not be loose in socket.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

#### 1. Maintenance Peg Step (82707 Configuration)

Part	Type of Damage	Max. Allowable	Repair
Step Tube	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks	None	N/A
	Permanent bend	*Note	None
Fitting	Corrosion	0.030" deep	Blend up to 0.030" deep with scotchbrite.
	Scratches / Nicks	0.060" deep x 0.5" long	Blend up to 0.060" deep with scotchbrite.
	Cracks	None	N/A
	Elongation of socket hole	None	N/A

\*Note: Minor bending of the step tube that does not cause the tube to become loose in the socket is acceptable.



### 5-3 PROTECTIVE TREATMENT INFORMATION

#### 1. Step Assembly

The Step Assembly is supplied powder coated or painted. If the finish is damaged, touch up with polyurethane paint.

The step tube has a strip of 1" wide 3M Safety-Walk grip tape applied to the top surface. If the grip tape is damaged replace with equivalent grip tape, or apply Randolph X1567 Wingwalk grip paint or equivalent.

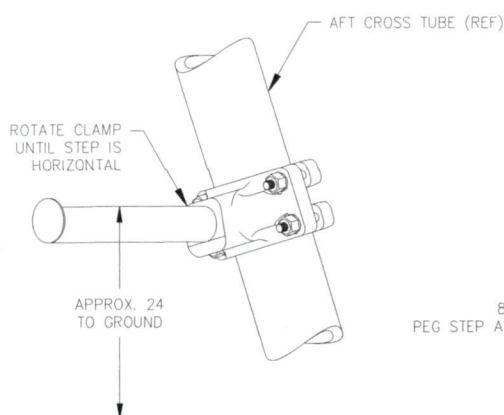
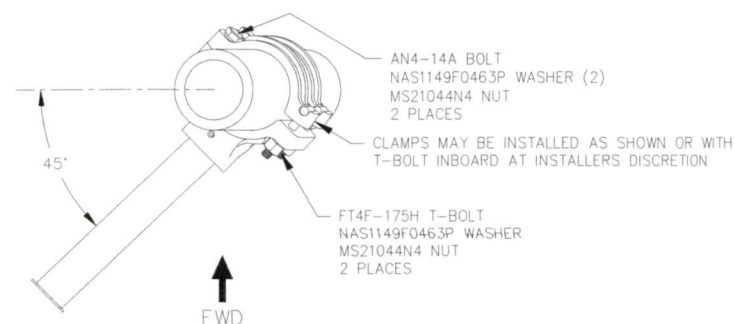
## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

The Maintenance Peg Step Installation may be applied to the right and/or left side of the helicopter.

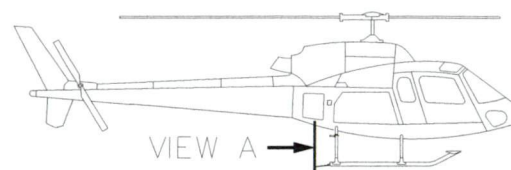
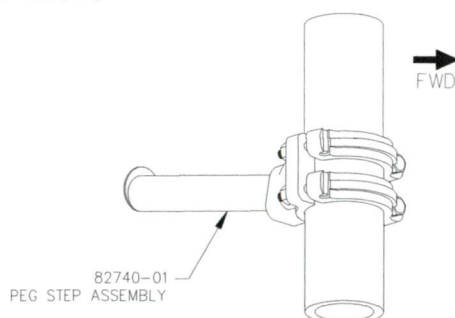
### 25-1 STEP INSTALLATION

Configuration: 82701-01 (right or left)

1. Locate Step Assembly 82740-01 on aft cross tube. Fasten one side with two (2) AN4-14A Bolts, NAS1149F0463P Washers (2), and MS21044N4 Nuts; fasten opposite side with two (2) FT4F-175H T-Bolts, NAS1149F0463P Washers (1) and MS21044N4 Nuts. Rotate step until horizontal, approximately 45 degrees to the cross tube. Torque nuts to 50-70 in-lbs (5.6-7.9 N-m).



VIEW A  
LOOKING FORWARD AT AFT CROSS TUBE



INSTALLATION (RIGHT)

Figure 25-1 – Maintenance Peg Step Attachment Details

### 25-2 STEP REMOVAL

Refer to Figure 2.

1. Remove AN4-14A Bolts, FT4F-175H T-Bolts, NAS1149F0463P Washers, and MS21044N4 Nuts attaching Step Assembly to aft cross tube. Remove Step Assembly.

**25-3 WEIGHT AND BALANCE**

## 82707 Configuration

**Standard**

P/N	Description	Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
82707-01	Maintenance Peg Step Inst'n (Right)	1.0	163.8	163.8	32.5	32.5
82707-01	Maintenance Peg Step Inst'n (Left)	1.0	163.8	163.8	-32.5	-32.5

**Metric**

P/N	Description	Weight	Longitudinal		Lateral	
		kg	arm mm	moment mm-kg	arm mm	Moment mm-kg
82707-01	Maintenance Peg Step Inst'n (Right)	0.45	4160.5	1872.2	825.5	371.5
82707-01	Maintenance Peg Step Inst'n (Left)	0.45	4160.5	1872.2	-825.5	-371.5

**25-4 STRUCTURAL FASTENER DATA**

Refer to Standard Practices Manual for torque values not listed in this ICA.

**CERTIFICATION PLAN**  
**CP827**

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**AIRBUS HELICOPTERS (EUROCOPTER)**  
**AS350 SERIES & AS355 SERIES**

**CABIN AND MAINTENANCE STEPS**  
**REVISION TO UPDATE HOLDER**

Prepared by: Jeff Clarke, P.Tech.(Eng.)

Revision 1, 18 July 2014  
(supplements original Compliance Program CP827, Rev. 0)

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## 1.0 INTRODUCTION

This certification plan details the means and methods of compliance for the Airworthiness Requirements shown on the Compliance Program (Appendix A). This document supplements the original Compliance Programs, CP827 Rev. 0.

This reissue of approval SH09-38 to issue 4 is to update the holder address and incorporate minor design changes into the approval.

Application for an EASA STC and amendment to FAA STC SR02770NY will follow reissue of the Canadian approval.

## 2.0 PROJECT DESCRIPTION

### *Fixed Cabin Steps*

Installation of the Quick Release Baskets requires the removal of existing flight steps for accessing the cabin. In order to aid access to the cabin, steps are installed that accommodate the cargo basket installations. All of the steps attach to the forward tip of the cross tube where provisions of 2 holes are provided. Three configurations are available: a short step running to the aft float provisions in the skid tube, supported by a bracket down to the skid tube; a long step running to a bracket attached to the forward cross tube; and a full length step running to brackets on the forward and aft cross tubes. The steps are made of an aluminum extrusion with welded caps, and brackets riveted to the forward end. The aft supporting brackets are machined aluminum.

Alternate configurations are also available, made by modifying the existing steps from another manufacturer. The modification cuts the step off at a length compatible with the baskets and plugs the end with a machined aluminum cap, leaving the forward end intact. The modified aft end is then supported with similar brackets to those used in the configurations above.

### *Quick Release Maintenance Steps*

When the quick release mounting provisions are installed, a step is useful for access to the engine area to perform maintenance. The step can be stowed at the bottom of the basket mounting beams so it can travel with the helicopter without taking up space in the cabin or in the basket. Two configurations are provided: the standard quick release maintenance step runs between the forward and aft cross tubes; the extended quick release maintenance step extends out the forward end by 19". The extended step fills the space between the forward cross tube and the short cabin step when the cargo basket is not installed to aid passenger access to the cabin. The steps are made of an aluminum extrusion welded to brackets that contain the fittings for attaching to the quick release mounting provisions.

### *Maintenance Peg Step*

A peg step mounted on the aft cross tube is useful to aid in stepping up to the top of the cross tube for maintenance. The peg step is clamped in place using similar clamps to the cargo basket mounts, which allow for variation found in the diameter of the tube. The step is made of machined aluminum straps and socket with a stainless steel tube pressed in.



### 3.0 BASIS OF CERTIFICATION

*Airbus Helicopters (formerly Eurocopter) AS350 B, B1, B2, B3, BA, D, TCDS H-83, Issue 22:*  
AS350 B3 (highest of all AS350 models):

FAR 27 effective 1 February 1965 including amendments 27-1 through 27-10.

Plus TCCA Additional Airworthiness Requirement as published in Airworthiness Manual Chapter 527 (Normal Category Rotorcraft) Change 3 dated January 3, 1994:

- a) 527.1093(b)(I)(ii) and (iii) -Induction System Icing Protection.
- b) 527.1301.1 -Rotorcraft Operations After ground Cold Soak.
- c) 527.1557(c)(3) -Miscellaneous Markings and Placards.
- d) 527.1581(e),(f) Rotorcraft Flight Manual
- e) 527.1583(h) -Ambient Temperature Limitation

*Eurocopter AS355 E, F, F1, F2, N, NP, TCDS H-87, Issue 9:*  
AS355NP (highest of all AS355 models):

FAR 27 Amendment 20, dated March 26, 1984, (such as modified by CTC 27) plus the following paragraphs of Amendment 21, dated December 6, 1984:

27.21, 27.45, 27.71, 27.79, 27.143, 27.151, 27.161, 27.173, 27.175, 27.177, 27.672, 27.673, 27.729, 27.735, 27.779, 27.807, 27.1329, 27.1413, 27.1519, 27.1525, 27.1555, 27.1585, 27.1587;

Plus FAR 27 amendment 23, paragraph 27.923.

Additional Airworthiness Requirements (AARs) Canadian Airworthiness Manual, Chapter 527 (Normal Category Rotorcraft):

- a) 527.1093(b)(I)(ii) and (iii) Induction System Icing Protection
- b) 527.1301-1 Rotorcraft Operations After Ground Cold Soak
- c) 527.1557(c) (3) Miscellaneous Markings and Placards
- d) 527.1583(h) Ambient Temperature Limitation

### 4.0 APPLICABILITY OF AIRWORTHINESS DIRECTIVES

Airworthiness Directives applicable to the Eurocopter AS350 and AS355 (all models) were reviewed on 18 July 2014, and none were found to affect this project.

### 5.0 PERSONNEL

Applicant: Aero Design Ltd. – Jeff Clarke, P.Tech.(Eng.)

Delegate: None – no changes to findings of compliance, see section 6.0 and 7.0

Transport Canada: Jack Staal, PNR Region



## **6.0 CERTIFICATION PLAN**

Re-issue of the approval is to reflect the change of address of the holder. Minor changes to the approved drawings are also incorporated at this issue. Evaluation of the changes is addressed in Section 7.0. There are no changes to the design data that invalidate the existing findings of compliance.

### **6.1 FAR 27.251 – Vibration; FAR27.629 - Flutter**

#### **6.1.1 Means of Compliance**

- a) Flight Test

#### **6.1.2 Method of Compliance**

- a) Flight Test conducted by TCCA

#### **6.1.3 Compliance Documents, Data and Testing**

Flight test report prepared by TCCA test pilot Michel Brulotte, 08 Oct 2010

#### **6.1.4 Schedule**

None.

#### **6.1.5 Level of Delegation**

None.

#### **6.1.6 Level of Involvement / Service**

None.

### **6.2 FAR 27.1581 – Rotorcraft Flight Manual**

#### **6.2.1 Means of Compliance**

- a) Flight Manual Supplement provided

#### **6.2.2 Method of Compliance**

- b) Flight manual supplement prepared to show normal procedures in accordance with FAR 27.1585.
- c) There are no operating limitations in accordance with FAR 27.1583.
- d) There is no performance information in accordance with FAR 27.1587.
- e) There is no loading information in accordance with FAR 27.1589.

#### **6.2.3 Compliance Documents, Data and Testing**

Flight Manual Supplement FMS827.90 to Revision 4.

The existing approved sections (I – V) are not changed.

Changes from TCCA accepted Revision 3:

1. Cover: Add contact information; add "Airbus Helicopters (Eurocopter)"; add EASA STC line.
2. Section VII - weight and balance: "Eurocopter Pod Compatible" configurations changed to "Cargo Pod Compatible"

#### **6.2.4 Schedule**

FMS827.90 revision 4 - submit to TC for review by 08 August 2014.

#### **6.2.5 Level of Delegation**

None

#### **6.2.6 Level of Involvement / Service**

<b>Deliverable</b>	<b>Transport Canada Service</b>
--------------------	---------------------------------

FMS827.90 Rev. 4 Requires Transport Canada review and approval

### **6.3 FAR 27.1529**

#### **6.3.1 Means of Compliance**

- a) Instructions for Continued Airworthiness provided

#### **6.3.2 Method of Compliance**

- a) Instructions for Continued Airworthiness are prepared in accordance with FAR 27 Appendix A

#### **6.3.3 Compliance Documents, Data and Testing**

Instructions for Continued Airworthiness ICA827.91 to Revision 5.

Changes from TCCA accepted Revision 4:

1. Cover: Contact information updated; DCL revision; add STC lines
2. Section 0-3: Contact information updated
3. Section 4: Add EASA limitation statement
4. Section 5: Change generic ICA references to ICA764.90 for mounting provisions
5. Section 5-3: Remove colour references (all were white). Add section for extended step because it does not use grip tape.
6. Section 25: Change generic ICA reference to ICA764.90 for mounting provisions; change "Eurocopter Pod Compatible Configuration" to "Cargo Pod Compatible Configuration".

Instructions for Continued Airworthiness ICA827.92 to Revision 4.

Changes from TCCA accepted Revision 3:

1. Cover: Contact information updated; DCL revisions; add STC lines
2. Section 0-3: Contact information updated
3. Section 0-4: Add Dart step conversions to compatibility.
4. Section 4: Add EASA limitation statement
5. Section 5-3: Remove colour references (all were white). Add alternate finishes.
6. Section 25: Add extra short configuration; update hardware part numbers (AN960 to NAS1149 etc.); metric torque specs added.

Instructions for Continued Airworthiness ICA827.93 to Revision 3.

Changes from TCCA accepted Revision 2:

1. Cover: Contact information updated; DCL revisions; add STC lines
2. Section 0-3: Contact information updated
3. Section 4: Fix FAA limitation statement; add EASA limitation statement
4. Section 5-3: Remove colour references (all were white); add alternate finishes.
5. Section 25: Update hardware part numbers (AN960 to NAS1149 etc.); metric torque specs added; corrected P/N in weight and balance.

#### **6.3.4 Schedule**

ICA827.91 Revision 5 – submit to TC for review by 08 August 2014.

ICA827.92 Revision 4 – submit to TC for review by 08 August 2014.

ICA827.93 Revision 3 – submit to TC for review by 08 August 2014.

#### **6.3.5 Level of Delegation**

None

#### **6.3.6 Level of Involvement / Service**

<b>Deliverable</b>	<b>Transport Canada Service</b>
ICA827.91 Rev. 5	Requires Transport Canada review and acceptance
ICA827.92 Rev. 4	Requires Transport Canada review and acceptance
ICA827.93 Rev. 3	Requires Transport Canada review and acceptance

## **7.0 EFFECT OF CHANGES ON EXISTING FINDINGS OF COMPLIANCE**

All documents - excluding engineering reports, load test reports, flight test reports or similar documents - are revised to incorporate the new company contact information and logo, which does not affect any finding of compliance. Changes beyond the address and logo are addressed below. A list of all changed documents is in Appendix B.

### **7.1 Flight Test Consideration**

This re-issue does not change the size, shape, position, weight, or attachment of any of the existing approved configurations of steps, therefore the existing flight tests remain valid.

A new configuration of "extra short" step is added which is 5.8" shorter than the existing approved short step. This configuration is addressed in section 7.6.2. This new step is fabricated the same as the existing short step, and mounted to the skid tube using the same bracket and hardware. The only difference is the length, and the shorter length makes the step more rigid. The change in length is not sufficient to invalidate the findings of the flight test for the short step configuration.

### **7.2 General**

The following changes are made on a number of drawings as indicated on the drawing:

Change: Metric units added.

Reason: Standard units in the existing manuals are in metric.

Effect: None.

Change: Hardware part numbers updated to current (e.g. AN960 Washer part numbers updated to NAS1149).

Reason: Update to current part numbers.

Effect: None.

Change: HuckMax rivets added as alternative to CherryMax rivets.

Reason: HuckMax rivets provide better forming of the rivet tail.

Effect: None. Both fasteners meet the requirements of NAS9301.

### **7.3 Document Control List DCL827-1 to Revision 6 – Quick Release Maintenance Step Installations**

FMS827.90 to Revision 4 addressed in section 6.0 above. Requires TCCA approval.

ICA827.91 to Revision 5 addressed in section 6.0 above. Requires TCCA acceptance.



### **7.3.1 Drawing 82701 to Revision 2 – Quick Release Maintenance Step Installation**

Change: Added to note 2: "The step cannot be stowed under the extra large ski basket, configuration 940".

Reason: The extra large ski basket uses the keyway required to stow the step.

Effect: None.

## **7.4 Document Control List DCL827-11 to Revision 4 – Quick Release Maintenance Step Assembly**

### **7.4.1 Drawing 82711 to Revision 1 – Extended Maintenance Step Assembly**

Change: Cap end modified

Reason: Original configuration required the end cap to be placed inside the step extrusion flush with the end and butt welded all around the edges, which was difficult to support the cap before the initial tack welds to hold the cap could be completed. The revised configuration cuts the end of the extrusion to the inside of the top surface, leaving a lip to support the cap, and the cap is enlarged to sit on the end of the extrusion (see 82720). The cap sitting on the end allows a corner bevel weld providing better weld penetration than the original butt weld.

Effect: Cap is non-structural, better weld penetration.

### **7.4.2 Drawing 82720 to Revision 2 – Extended Maintenance Step Parts**

Change: Cap size increased by 0.050" all around.

Reason: See justification above.

Effect: None.

## **7.5 Document Control List DCL827-2 to Revision 4 – Maintenance Peg Step Installation**

ICA827.93 to Revision 3 addressed in section 6.0 above. Requires TCCA acceptance.

### **7.5.1 Drawing 82707 to Revision 2 – Maintenance Peg Step Installation**

Change: Note 2 referenced provisions in accordance with 78601 and 78602. Removed 78601 and added 78603.

Reason: Provisions in accordance with 78601 is out of date; 78602 and 78603 current.

Effect: None.

### **7.5.2 Drawing 82740 to Revision 2 – Peg Step Assembly**

Change: Material for cap (item 06) changed from 321 stainless steel to 304 stainless steel.

Reason: 304 material is easier to procure than 321.

Effect: Cap is non-structural.

Change: Powder coating added as alternate finish.

Reason: Powder coating provides for better resistance to mechanical damage than paint, which in turn provides for better corrosion resistance.

Effect: The part has improved corrosion resistance properties over the approved configuration.

Change: Grip paint on step changed to adhesive grip tape.

Reason: Simplifies application, removes handling of hazardous chemicals to apply paint.

Effect: None. Same grip tape is used on existing approved cabin steps.

## **7.6 Document Control List DCL827-3 – Fixed Cabin Step Installation**

ICA827.92 to Revision 4 addressed in section 6.0 above. Requires TCCA acceptance.

### **7.6.1 Drawing 82705 to Revision 2 – Long Cabin Step Installation Drawing 82751 to Revision 1 – Long Commuter Cabin Step Installation**

Change: Note 3 updated to include reference to drawing 94001 for extra large basket installation.

Reason: This installation is not compatible with the extra large basket installation.

Effect: None.

### **7.6.2 Drawing 82706 to Revision 2 – Short Cabin Step Installation**

Change: Add extra short configuration.

Reason: A customer in New Zealand is selling fiberglass pods, with local and Canadian STCs, and they require a cabin step that is compatible with the pod, and have approached Aero Design to use a modified version of the short step. The pod sits further forward than the largest Aero Design cargo basket, which means the pod will interfere with the current short step. The step is shortened to pick up on a farther forward float provision hole in the skid tube. Construction and attachment remains the same as the approved short step.

Effect: Weight and balance information provided; see drawing 82719 for fabrication.

**7.6.3      Drawing 82770 to Revision 1 – Short Cabin Step Installation, Dart Conversion**  
**Drawing 82771 to Revision 1 – Long Cabin Step Installation, Dart Conversion**  
**Drawing 82772 to Revision 1 – Short Cabin Step Installation, Dart Conversion, Old Profile**  
**Drawing 82773 to Revision 1 – Long Cabin Step Installation, Dart Conversion, Old Profile**

Change: Note 1 updated to reference ICA827.92

Reason: Original note 1 only referenced the existing maintenance documents. TCCA accepted ICA 827.92 Rev. 3 included Dart Step Conversions.

Effect: None.

Change: 82771 and 82773 only: Note 2 updated to include reference to drawing 94001 for extra large basket installation.

Reason: This installation is not compatible with the extra large basket installation.

Effect: None.

**7.7      Document Control List DCL827-13 – Fixed Cabin Steps Fabrication**

**7.7.1      Drawing 82715 to Revision 2 – Short Step Assembly**  
**Drawing 82717 to Revision 1 – Long/Full Length Step Assembly**  
**Drawing 82718 to Revision 2 – Commuter Step Assembly**

Change: 82715 only: Add option to turn centre section of bushing to smaller diameter.

Reason: It is easier to install the bushing prior to welding when it is not dragging on the surface of the hole over the length of the bushing.

Effect: Bushing is loaded vertically at the ends where the step bracket is attached, which is full diameter. The centre section of the bushing does not support loads on the step.

Change: 82715 and 82717 only: Powder coating added as alternate finish.

Reason: Powder coating provides for better resistance to mechanical damage than paint, which in turn provides for better corrosion resistance.

Effect: The part has improved corrosion resistance properties over the approved configuration.

Change: 82718 only: Paint added as alternate finish.

Reason: Standardization with 82715 and 82717. Some operators require custom colours that are not feasible to be powder coated.

Effect: None.

Change: End details added.

Reason: The original configuration required the aft end cap to be placed inside the step extrusion flush with the end and butt welded all around the edges, which was difficult



to support the cap before the initial tack welds could be completed to hold the cap in place. The revised configuration cuts the end of the extrusion to the inside of the top surface, leaving a lip to support the cap, and the cap is enlarged to sit on the end of the extrusion. The cap sitting on the end allows a corner bevel weld providing better weld penetration than the original butt weld.

The original forward end required a bevel weld around the cone on the bottom side of the top wall of the extrusion. This weld could not be effectively ground flush (for aesthetics) because most of the weld would be ground off. The revised configuration cuts the top surface of the extrusion back to allow a bevel weld on top of the cone which can be shaped flush without penetrating through the weld.

Effect: Caps are non-structural, better weld penetration.

#### **7.7.2 Drawing 82719 Revision 0 (new) – Extra Short Step Assembly**

Change: New drawing.

Reason: See drawing 82706 to Rev. 2.

Effect: Construction is identical to approved short step, except 5.81" shorter. Shorter length decreases bending moment on the step between attachments, making the shorter step more rigid. TCCA flight test did not indicate any flutter or vibration related to the short step installation.

#### **7.7.3 Drawing 82733 to Revision 2 – Short Step Parts Fabrication**

Change: Centre support radius (0.25") and upper radius (0.28") increased to 0.31"

Reason: Chatter marks were caused by smaller tooling required in the corners, increased size allows larger, more rigid tools to be used.

Effect: Larger radius allows more material to remain, strength increased over original.

#### **7.7.4 Drawing 82734 to Revision 1 – Cabin Step Parts Fabrication**

Change: Cap (03) profile updated.

Reason: See drawing 82715 to Rev. 2.

Effect: None.

Change: Flat patterns for channel (02) and angle (05) added

Reason: Parts are laser cut, flat patterns were not available.

Effect: None.

#### **7.7.5 Drawing 82760 to Revision 1 – Commuter Step Assembly**

Change: Welding symbols added.

Reason: Weld locations were omitted on original drawing.

Effect: None.



Change: Paint added as alternate finish.  
Reason: Standardization with other steps. Some operators require custom colours that are not feasible to be powder coated.  
Effect: None.

Change: Fasteners added.  
Reason: Fasteners are specified on installation drawing, should be included during assembly.  
Effect: None.

#### **7.7.6 Drawing 82765 to Revision 2 – Commuter Step Bracket Fabrication**

Change: Note added: Remove all burrs and break sharp edges.  
Reason: Omitted on original drawing.  
Effect: None.

Change: Cut note added.  
Reason: A cut is made to allow the bracket to tighten around the step extrusion on installation. The cut must be made after the helicoil is installed, as it is difficult to install the helicoil once the threads have been cut through.  
Effect: None.

#### **7.7.7 Drawing 82784 to Revision 1 – Cap Fabrication (Dart, old)**

Change: Radius at center support increased from 0.25 to 0.31  
Reason: Chatter marks were caused by smaller tooling required in the corners, increased size allows larger, more rigid tools to be used.  
Effect: Larger radius allows more material to remain, strength increased over original.

#### **7.7.8 Drawing 82784 to Revision 1 – Cap Fabrication (Dart, old)**

Change: Stock size changed from 2"x4" bar to 2"x2.5" bar  
Reason: Incorrect size on original drawing.  
Effect: None.

## **APPENDIX A**

### **COMPLIANCE PROGRAM**

APPLICANT: Aero Design Ltd.  
9888 A Malaspina Road  
Powell River, BC, Canada  
V8A 0G3

DATE: 0 07 November 2008 (Original)  
REVISION No. 1 18 July 2014

MAKE: Airbus Helicopters (Eurocopter)  
MODEL: AS350 B, B1, B2, B3, BA, D; AS355 E, F, F1, F2, N, NP

CORRESPONDANCE TO:  
(If other than applicant)

REGISTRATION: All Eligible  
SERIAL No.: All Eligible

NATURE OF WORK: External Attachment Provisions Installation; Quick Release Cargo Basket Installation  
TYPE CERTIFICATE DATA SHEET: H-83 issue 22 / H-87 issue 9  
MODEL CERTIFICATION BASIS: FAR 27 dated 1 February 1965, including amendments 27-1 thru 27-20 (AS355 NP basis, highest of all models)  
MODIFICATION CERTIFICATION BASIS: FAR 27 dated 1 February 1965, including amendments 27-1 thru 27-20 (AS355 NP basis)

Airworthiness Requirement	Change from CP Rev. 0	Subject for Compliance or Documentary Proof	Form of Substantiation	DOT	DAR	Comments
<b>Subpart B – Flight</b>						
27.29	No	Empty Weight and Corresponding C of G	Data specified on inst'n drawing			
27.251	Yes	Vibration	Flight Test	X		Transport Canada flight test PER <del>DOT</del> ORIGINALLY.
<b>Subpart C – Strength Requirements</b>						
27.301	No	Loads – Air Drag/Lift Loads	Analysis			
27.301	No	Loads – Inertia Loads	Compliance with 27.337 and 27.561			
27.303	No	Factor of Safety	Analysis			
27.305	No	Strength and Deformation	Analysis and Test			
27.307	No	Proof of Structure	Analysis and Test			
27.337(a)	No	Limit Maneuvering Load Factor – Positive	Analysis and Test			
27.561	No	Emergency Landing Conditions	N/A			Critical load factor in downward direction. Step is located below cabin
<b>Subpart D – Design and Construction</b>						
27.601	No	Design	Drawings			Design is conventional.
27.603	No	Materials	Drawings			Materials used are specified in Mil-Hdbk-5J.
27.605	No	Fabrication Methods	Drawings			Design is conventional.

Airworthiness Requirement	Change from CP Rev. 0	Subject for Compliance or Documentary Proof	Form of Substantiation	DOT	DAR	Comments
27.609	No	Protection of Structure	Drawings	}	JF	Design is easy to inspect.
27.611	No	Inspection Provisions	Drawings			
27.613	No	Material Strength Properties and Design Values	Values used as per Mil-Hdbk-5J			
27.625	No	Fitting Factor	Analysis			
27.629	Yes	Flutter	Flight Test	X	JF	Transport Canada flight test original
Subpart F – Equipment						
27.1387	No	Position Light System Dihedral Angles	N/A			No change from Type Approval.
27.1401	No	Anticollision Light System	N/A			No change from Type Approval.
Subpart G – Operating Limitations and Information						
27.1529	Yes	Instructions for Continued Airworthiness	ICA Provided	X	JF	Installation/Removal instructions for Quick Release Steps
27.1581	Yes	Rotorcraft Flight Manual	FMS Provided	X		
Canadian Airworthiness Manual Chapter 527, change 527-3, dated 3 January 1994						
527.1581	Yes*	Flight Manual - General *(was not included on original CP)	Flight Manual Supplement		JF	SI/Imperial units provided



## **APPENDIX B**

### **LIST OF CHANGED DOCUMENTS**

Number	Title	Rev (current approved)	Rev (new)	Description of change
SH09-38	Transport Canada STC	3	4	New address, changes below, remove model AS350 D1
SR02770NY	FAA STC EASA STC	26/01/10	(amend)	New address, changes below New
CP827	Certification Plan - Including compliance program	0	1	Shows changes from TC accepted CP827 Rev. 0
<b>DCL827-1</b>	<b>Document Control List – Quick Release Maintenance Step Installation</b>	5	6	Changes below, new address
82701	Quick Release Maintenance Step Installation	1	2	TB (Title block updated), hardware, metric units, note 2
82702	Extended Quick Release Maintenance Step Installation	1	2	TB, hardware, metric units
FMS827.90	Flight Manual Supplement	3	4	Contact info, approval #'s on cover, change "cargo pod"
ICA827.91	Instructions for Continued Airworthiness	4	5	New address, EASA limitations, ICA refs, change "cargo pod"
<b>DCL827-2</b>	<b>Document Control List – Maintenance Peg Step Installation</b>	3	4	Changes below, new address
82707	Maintenance Peg Step Installation	1	2	TB, hardware, notes
82740	Maintenance Peg Step Assembly	1	2	TB, hardware, cap material, powder coat, grip tape
ICA827.93	Instructions for Continued Airworthiness	2	3	New address, EASA limitations, hardware, metric units
ER827.01	Engineering Report	2	2	No change
<b>DCL827-3</b>	<b>Document Control List – Fixed Cabin Step Installation</b>	6	7	Changes below, new address
82705	Long Cabin Step Installation	1	2	TB, metric units, hardware, note 3
82706	Short Cabin Step Installation	1	2	TB, metric units, hardware, extra short config
82709	Full Length Cabin Step Installation	0	1	TB, metric units, hardware
82750	Short Commuter Cabin Step Installation	0	1	TB, metric units, hardware
82751	Long Commuter Cabin Step Installation	0	1	TB, metric units, hardware, note 3
82752	Full Length Commuter Cabin Step Installation	0	1	TB, metric units, hardware
82770	Short Cabin Step Installation – Dart Conversion	0	1	TB, metric units, hardware, note 1
82771	Long Cabin Step Installation – Dart Conversion	0	1	TB, metric units, hardware, note 1 + 2
82772	Short Cabin Step Installation – Dart Conversion (old extr.)	0	1	TB, metric units, hardware, note 1
82773	Long Cabin Step Installation – Dart Conversion (old extr.)	0	1	TB, metric units, hardware, note 1 + 2
ICA827.92	Instructions for Continued Airworthiness	3	4	New address, EASA limitations, hardware, metric units

Number	Title	Rev (current approved)	Rev (new)	Description of change
<b>DCL827-11</b>	<b>Document Control List – Quick Release Maintenance Step Fabrication</b>	3	4	Changes below, new address
82716	Step Assembly	0	1	TB
82722	Step End Fabrication	0	1	TB
82711	Extended Step Assembly	0	1	TB, hardware, end cap
82720	Step Bracket Fabrication	1	2	TB, end cap
ER827.02	Engineering Report	0	0	No change
<b>DCL827-13</b>	<b>Document Control List – Fixed Cabin Step Fabrication</b>	5	6	Changes below, new address
82715	Short Cabin Step Assembly	1	2	TB, hardware, end cap, powder coat, bushing
82717	Long Cabin Step Assembly	0	1	TB, hardware, end cap, powder coat
82718	Commuter Cabin Step Assembly	1	2	TB, hardware, end cap, paint
82719	Extra Short Cabin Step Assembly	--	0	New
82723	Bracket Fabrication	1	2	TB
82733	Short Cabin Step Parts Fabrication	1	2	TB, corner rads
82734	Cabin Step Parts Fabrication	0	1	TB
82736	Commuter Cabin Step Parts Fabrication	0	1	TB
82760	Commuter Step Assembly	0	1	TB, weld symbols, hardware
82765	Bracket Fabrication	1	2	TB, notes
82780	Bracket (DART Long)	0	1	TB
82781	Cap (DART Long)	0	1	TB
82782	Bracket (DART Short)	0	1	TB, corner rads
82783	Cap (DART Short)	0	1	TB
82784	Cap (Old Extrusion, DART Short)	0	1	TB, stock size
82785	Bracket (Old Extrusion, DART Long)	0	1	TB
82786	Cap (Old Extrusion, DART Long)	0	1	TB
ER827.02	Engineering Report	0	0	No change
ER827.03	Engineering Report	1	1	No change
	Flight Test Report - Transport Canada	--	--	No change (omitted on original issue)

# CHANGED PRODUCT RULE (CPR) DECISION RECORD

(This form should be signed with the Design Change Approval Application Form 26-0469)

CPR Steps (Figure 1 of AMA 500/16)	Rationale
<b>Step 1:</b> Has the proposed change to the aeronautical product been identified? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(Per section 5.4 of AMA 500/16) The area(s) affected by the change have been detailed in document number(s):
<b>Step 2:</b> Is the change substantial? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Per section 5.5 of AMA 500/16)
<b>Step 3:</b> Will the latest standards be used?	(Per section 5.6 of AMA 500/16) applicant accepts the use of the latest amendments to the standards for all areas affected by the change. <input checked="" type="checkbox"/> No
<b>Step 4:</b> Is the proposed change significant? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Per section 5.7 of AMA 500/16)
<b>Decision:</b> Will the latest standards be used?	applicant accepts the use of the latest amendments to the standards for all areas affected by the change. <input checked="" type="checkbox"/> No
<b>Step 5:</b> For every area, is the area affected by the proposed change? <input type="checkbox"/> Yes <input type="checkbox"/> No	(Per section 7.4 of AMA 500/16) The area(s) affected by the significant change have been detailed in Certification Plan or Compliance Program (or equivalent) document number(s):
A delegate may develop a proposal for the Yes/No decision of Step 6(a) and (b), however, TCCA will make the final determination of the acceptability of these exceptions.	
<b>Step 6(a):</b> Do the latest standards contribute materially to the level of safety? <input type="checkbox"/> Yes <input type="checkbox"/> No	(Per section 7.5 of AMA 500/16)
<b>Step 6(b):</b> If the latest standards contribute materially to the level of safety are they practical? <input type="checkbox"/> Yes <input type="checkbox"/> No	(Per section 7.5 of AMA 500/16)
Has an Issue Paper been generated to document the certification basis and to record the decisions made? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Under the authority vested in me by the Minister, I have examined the change in type design listed above according to established procedures and hereby determine that it is <u>significant / not-significant</u> pursuant to subsection 511.13(3) or 513.07(3) of the CARs, to the best of my knowledge and belief.	
Name and Signature <u>J. Staal</u>	Date <u>10 Feb 2015</u>
TC AC Engineer <u>ing Tech.</u>	



# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

## APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

### BLOCK 1

Name of the applicant for the design change approval:	Aero Design Ltd.
Description of the design change:	Installation of Maintenance Peg Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
Certification Basis of design change and revision date:	FAR 27, Amendment 27-20
CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:	Section 0-3 of Supplemental ICA (ICA 827.93)
CAR Standard 513.05 (1) (g) (iv): Installation Instructions:	Installation Drawing 82707

### BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.93, Rev. 3)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5

# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A



**MSI 53 – Review of Supplemental Instructions for Continued Airworthiness**

<b>Regulatory Standard Reference Column 1</b>	<b>Design Approval Holder (DAH) ICA Reference Column 2</b>	<b>Applicant Means of Compliance Supplemental ICA Requirements Column 3</b>
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 and 25-2
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-3
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-4
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

#### A527.4 AWL - Separate Section 1

The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."

ICA ref: Eurocopter AS350/AS355  
Maintenance Manual, Chapter 4

Supplemental ICA ref: Section 4

### BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.

Applicants Signature:  Date: 01 August 2014

Applicants Name: Jeff Clarke, Vice President

### BLOCK 5 – Minister's Statement of Acceptability

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.

Reviewer's Name: \_\_\_\_\_ Phone # \_\_\_\_\_ Email: \_\_\_\_\_ Mail Routing Symbol: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ NAPA Number: \_\_\_\_\_



# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

## APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

### BLOCK 1

Name of the applicant for the design change approval:	Aero Design Ltd.
Description of the design change:	Installation of Fixed Cabin Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
Certification Basis of design change and revision date:	FAR 27, Amendment 27-20
CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:	Section 0-3 of Supplemental ICA (ICA 827.92)
CAR Standard 513.05 (1) (g) (iv): Installation Instructions:	Installation Drawing 82705, 82706, 82709, 82750, 82751, 82752, 82770, 82771, 82772, 82773

### BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.92, Rev. 4)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5

# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A



### MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 thru 25-6
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-8
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-9
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

<b>A527.4 AWL - Separate Section 1</b> The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under <a href="#">527.571</a> . If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Section 4
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### BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.

Applicants Signature:  Date: 01 August 2014

Applicants Name: Jeff Clarke, Vice President

### BLOCK 5 – Minister's Statement of Acceptability

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.

Reviewer's Name: \_\_\_\_\_ Phone # \_\_\_\_\_ Email: \_\_\_\_\_ Mail Routing Symbol: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ NAPA Number: \_\_\_\_\_



# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

## APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

### BLOCK 1

Name of the applicant for the design change approval:	Aero Design Ltd.
Description of the design change:	Installation of Quick Release Maintenance Step on Airbus Helicopters (Eurocopter) AS350 & AS355 Series
Certification Basis of design change and revision date:	FAR 27, Amendment 27-20
CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:	Section 0-3 of Supplemental ICA (ICA 827.91)
CAR Standard 513.05 (1) (g) (iv): Installation Instructions:	Installation Drawing 82701, 82702

### BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA827.91, Rev. 5)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5

# MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A



### MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 and 25-2
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-3
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-4
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

<b>A527.4 AWL - Separate Section 1</b> The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under <a href="#">527.571</a> . If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Chapter 4
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### BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.

Applicants Signature:  Date: 01 August 2014

Applicants Name: Jeff Clarke, Vice President

### BLOCK 5 – Minister's Statement of Acceptability

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.

Reviewer's Name: \_\_\_\_\_ Phone # \_\_\_\_\_ Email: \_\_\_\_\_ Mail Routing Symbol: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ NAPA Number: \_\_\_\_\_





## DECLARATION OF CONFORMITY WITH THE CERTIFICATION BASIS

In accordance with Canadian Aviation Regulations Subpart 521, I hereby declare that the design of the Quick Release Maintenance Steps, Maintenance Peg Step, and Fixed Cabin Steps, as detailed in the data approved by Transport Canada on approval SH09-38, Issue 4, has been demonstrated to conform to the best of my knowledge to the basis of certification established by the Minister for that approval in file C-14-0821.

Aero Design Ltd.

per: Jeff Clarke  
Signature

Jeff Clarke

Print Name

Vice President

Title

02 September 2014

Date



## SIGNED UNDERTAKING

In accordance with CAR 521 Aero Design Ltd. hereby

*Company to hold the approval document(s):*

undertake to carry out the responsibilities of a design approval document holder, as set out in Division VIII of Part V, Subpart 21 of the CARs, regarding:

1. Technical capability,
2. Service difficulty reporting,
3. Establishing a service difficult reporting system,
4. Investigation of service difficulty reports,
5. Mandatory changes,
6. Transfers,
7. Record keeping and loss or disposal of records,
8. Manuals,
9. Instructions for continued airworthiness, and
10. Supplemental integrity instructions

The responsibilities noted above are with reference to the data which may be found with one or more of the following numbers:

Transport Canada file number: C-14-0821

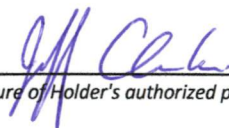
*and / or*

Project Reference number: 827

*and / or*

Approval Number: SH09-38, Issue 4

X

  
*Signature of Holder's authorized person:*

02 September 2014  
*Date:*

Vice President

*Position / Title:*



DESIGN CHANGE APPROVAL APPLICATION

DEMANDE D'APPROBATION D'UNE MODIFICATION DE LA CONCEPTION

Legal name and address of applicant Nom et adresse légal du demandeur  <b>Aero Design Ltd. 9888A Malaspina Road Powell River, BC, Canada V8A 0G3</b>	Legal name and address of prospective holder Nom et adresse légal du titulaire éventuel  <b>Aero Design Ltd. 9888A Malaspina Road Powell River, BC, Canada V8A 0G3</b>	Name and address for billing purposes (if different than applicant) Nom et adresse aux fins de facturation (si différent du demandeur)
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Identification of aeronautical product / Identification du produit aéronautique				
Make / Marque <b>Eurocopter</b>	Model / Modèle <b>AS350, AS355 (all)</b>	Registration / Immatriculation <b>All eligible</b>	Serial No. / N° du série <b>All eligible</b>	Part No. / N° de la pièce

Request for (check appropriate box) / Objet de la demande (Cochez les carrés selon le cas)		Type Design Examination by Foreign Authority Examen de la définition de type par autorité étrangère
<input type="checkbox"/> STC CTS	<input type="checkbox"/> Repair Design Approval (RDA) Approbation de la conception de réparation (ACR)	<input type="checkbox"/> Application to a foreign authority is requested La demande à une autorité étrangère est demandée.  <input type="checkbox"/> Type design examination of foreign change Examen de la définition de type modification étrangère
<input type="checkbox"/> STC (single serial number) CTS (numéro de série simple)	<input type="checkbox"/> Repair Design Approval - Process Repair ACR - Processus de réparation	
<input type="checkbox"/> STC (multiple serial numbers) CTS (numéros de série multiples)	<input type="checkbox"/> Part Design Approval (PDA) Approbation de la conception de pièce (ACP)	
<input type="checkbox"/> Type Certificate Revision Revision de certificat de type		
<input checked="" type="checkbox"/> Revision Révision	No. / N° <b>SH09-38</b> Current Issue / Édition active <b>3</b>	

<input type="checkbox"/> Restricted Category Catégorie restreinte	Type of Operation Type d'opération
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Title and brief description of modification, repair or replacement part, including effects of changes (use additional pages if necessary). Refer to CAR 521.155(b)(i) for details.  
Titre et brève description de la modification, de la réparation ou de la pièce de rechange, y compris les effets des changements (utiliser des feuilles supplémentaires si nécessaire).  
Référez-vous à RAC 521.155(b)(i) pour des détails.

**Installation of Quick Release Maintenance Step; Installation of Maintenance Peg Step;  
Installation of Fixed Cabin Step  
Refer to CP827 Rev. 1 for complete description**

Applicable Type Certificate (TC) / Certificat de type (CT) pertinent		
TC No. / N° de CT <b>H-83 / H-87</b>	Issue No. / N° de l'édition <b>22 / 9</b>	Identify State of Design / Identifier l'état de conception <b>EASA</b>


The applicant is responsible for the control of product manufacture / Le demandeur est responsable du contrôle de la fabrication du produit

☒ Yes / Oui    ☐ No / Non    If no, identify who is responsible / Si non, identifier qui est responsable

Documentation to be submitted Documentation à soumettre	Applicant Demandeur	
	Submitted Soumis	
	Yes Oui	No Non
Proposed certification basis Proposition de base de certification	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Certification plan in accordance with CAR 521.155(d) Plan de certification selon RAC 521.155(d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Applicant's remarks / Remarques du demandeur  
**Reissue is to update holder information and minor changes identified in the certification plan.**

I hereby certify that the information contained herein is correct and complete. I agree to pay charges as prescribed in Part 1, Subpart 4 of the CARs (CAR 104-Charges).  
Je certifie que les renseignements figurant ci-dessus sont exacts et complets. Je m'engage à payer les redevances prescrites à la sous-partie 4 de la partie 1 du RAC (sous-partie 104 du RAC - Redevances).

 Name and Signature of Applicant / Nom et signature du demandeur	<b>VICE PRESIDENT</b> Title / Poste	<b>2014-08-05</b> Date (yyyy-mm-dd) / Date (aaaa-mm-jj)
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